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ORIGINAL ARTICLES.

OPERATION IN HYPERTROPHIED PROSTATE.

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The importance of this subject could hardly be overestimated. However, the limits of this paper will preclude anything like a full or complete consideration of the present status of prostatic surgery. We will, therefore, confine ourselves to the discussion of only two phases of this most interesting and important subject—the time for operative interference and the choice of methods. It is well known that a very large percentage of old men suffer from enlarged prostate. While prostatic overgrowth is quite common after the age of fifty-five years, we must not forget that there is a small number of young men in whom enlargement takes place much earlier. Squier, in a late article, speaks of five patients of ages ranging from twenty-three to forty-eight years, in all of whom the prostate was of twice the normal size or greater.

Again, we frequently find a great discrepancy existing between the amount of prostatic enlargement and the degree of discomfort endured by the patient with prostatic symptoms. A small prostate will frequently cause disturbance out of all proportion to the amount of enlargement. Squier looks upon prostatic overgrowth not as a purely senile condition, but as an interstitial change, insidious in its onset, early affecting the innervation of the prostate and the prostatic urethra. Through close connection with the hypogastric plexus of the sympathetic, the lumbar plexus and spinal nerves, these changes give rise to many reflex symptoms in the bladder and kidneys, and to sexual disturbances as well. Later on, with lessened vigor of declining years, they may cause mechanical obstruction to the outlet of the bladder. These reflexes, due to disturbed innervation, frequently develop before attention is directed to the prostate as the real origin of the trouble. With advancing years, as the bladder muscle shares in the physical degeneration of age, symptoms of obstruction will become a more and more prominent and important factor in the situation. It will generally be admitted that prostatic enlargement, once begun, is progressive. In the majority of cases but little attention is given to preliminary manifestations; the increased frequency of urination—the occasional difficulty in

starting micturition, the retention of a few drops which dribble out after the act is apparently finished. Only when bleeding, pain or obstruction, seriously inconveniencing the patient, show themselves, is the matter considered of importance enough to consult the medical adviser. Usually at this time there is considerable residual urine. Only too often is the sufferer introduced to catheter life with its attendant dangers. Surgeons will generally admit that in only a small number of cases can the bladder be kept aseptic for any length of time after catheter life is begun. C. H. Mayo says "few individuals have a comfortable catheter life, and those who obtain relief for long periods in this manner only impress upon our minds that the average length of catheter life is (4 to 6) four to six years."

In the large class of those who have manual labor to perform for their living, or in old, feeble persons unable to secure assistance, it is practically impossible to secure asepsis. Apart from the impossibility of training workingmen to render hands and all accessories clean for each catheterization, the lack of time and the expense of apparatus required, precludes the possibility of attaining asepsis except with the wealthier, leisure class. Given the necessary wealth and leisure, and in addition, a methodical habit, septic cystitis and many tortures to which prostatics are exposed, may be for a time avoided. Even so, the progressive increase of prostatic overgrowth does not halt. The patient grows steadily older and feebler; less and less able to help himself, and the prostate continues to increase in size. The difficulties increase as the ability of the patient to deal with them grows less. Year by year the catheter must be passed more frequently, until finally its use becomes almost incessant, day and night. Pain often becomes unbearable. The introduction of any instrument becomes more and more difficult, until it may be impossible for the patient, and even difficult or impossible for the surgeon. Hemorrhage becomes more and more a factor, and sooner or later septic cystitis is certain to follow. Hence the vital question comes home to us all: whether it is best to carry out catheterization as long as possible and then operate, or to interfere early before the kidneys are damaged by back pressure, and before other septic complications occur. The question of operation must depend on many factors; social as well as physical conditions must be taken into account. The poor football of fortune possessing neither the means nor the mentality to pursue catheter life, is in far different position when operation is to be considered from that occupied by his more fortunate brother, who is able to avail himself of all the measures modern surgery has developed to render catheterization less of a peril. Circumstances may modify the rule, but my feeling is that operation should be advised in the majority of cases as soon as definite obstructive symptoms are presented. Generally, the habitual employment of the catheter means atony of the bladder and septic cystitis, sooner or later, and with enlarged and obstructing pros-

tate means finally death by slow torture. Septic cystitis follows the frequent use of the catheter, even in spite of most rigid aseptic precautions, usually from the neglect of them.

In cases of doubt the catheter may be given a trial first. However, if the frequency with which it has to be used increases; if the bladder grows more irritable; if the amount of residual urine increases; if there be a tendency to development of a cystitis; if attacks of congestion occur frequently; if there is any difficulty in the passage of the catheter; if the introduction of the instrument causes bleeding; if there is the tendency to the formation of calculi in the bladder pouch behind the prostate; if specific gravity of the urine continually diminishes, the use of the catheter should be given up as a failure, as it is clearly shown that catheterism fails to fulfill the needed conditions. Unless there be special and weighty reasons for delaying operation, why expose patients to the additional risks incident to a policy of delay in operative procedure? To me the conditions seem closely analagous to those obtaining in disease of the appendix and gall bladder. The changes in the bladder, ureters and kidneys incident to obstruction are well known.

The dilatation of the kidney pelvis, atrophy of the renal substance, the damage done to the portion of the kidney remaining by interstitial nephritis, are the conditions most to be dreaded. They are mainly responsible for the mortality, and are the conditions I would especially emphasize. Patients should not be allowed to drift into a worn out and septic state from pain, cystitis and loss of rest. To operate on a strong, hearty old man at the beginning of catheter life, is quite a different thing from operating on the same individual when months or years of disturbed rest, pain and sepsis have exhausted him physically and mentally and left him a broken wreck, without resistance or recuperative power.

It is interesting in this connection to recall very briefly the development of the surgery of the appendix. But a few short years since only those cases were operated on in which there was evidence of appendiceal abscess; then came operations in the interval between attacks and, later, the operation on cases of acute appendicitis at the earliest possible moment, before suppuration, perforation or gangrene had occurred, with all the frightful dangers thereto appertaining. The tremendous decrease of mortality attending each advance in the surgery of appendix is now universally recognized. Who now would subject the victims of this dread disease to all the dangers of delay—when circumstances permit of early operation under proper conditions? The situation in hypertrophied prostate seems to me closely analogous. So soon as obstructive symptoms appear with enlarged prostate, the surgeon should carefully weigh the dangers, immediate and remote, incident to operative interference and those associated with a policy of delay. In my opinion the safe plan, in the great majority of cases would be to remove the offend-

ing organ with the first alarm sounded by the symptoms of obstruction. With early operation and with improved technique of this date, mortality will certainly be very greatly reduced and the diminution of the sum total of suffering will be almost incalculable. This consideration alone, the sparing of needless misery, the rendering comfortable of the late years of so many old men, is a matter of the utmost importance. Since euthanasia is not as yet permitted, or, I think, advisable, I believe there are few men who, if the matter could be made plain to them at the outset, would not gladly take the risk of an early operation rather than face the misery, the long-drawn out suffering of catheter life, to which the majority of prostatics are doomed if made dependent on the catheter.

Renal insufficiency is placed by many investigators as the most important factor in determining for or against operation. If operation be made early, before the obstruction has caused the well recognized secondary changes in the bladder, the ureters, the pelvis and secreting portions of the kidneys, the dangers to the sufferer are certainly thereby greatly diminished. Should some of these secondary changes already be established it should be no argument against the effort to relieve. Experience has proven that cases of pyelitis, the result of ascending infection, have been greatly improved or cured when the obstructing prostate was removed, thus affording free drainage of the bladder, ureters and kidneys. Just so kidneys which have been insufficient in their functions before operation have been greatly improved by the removal of urinary obstruction, thus affording free drainage. The chief danger of prostatectomy now lies in the fact that the condition of the patient coming to operation is such that any surgical interference is a matter of great gravity. Too often there exists an arteriosclerosis, cystitis, perhaps a pyelitis and some renal insufficiency. These facts, while they should be carefully weighed and their bearing on the outcome of interference duly considered, must not of necessity bar the sufferer from relief, or excuse us from making the effort to relieve. In the large class of cases which come to operation after changes in the kidneys, ureters and bladder secondary to urinary obstruction are pronounced, one great danger of operation has been the after results incident to general anesthesia. Frequently the effect of the anesthesia is to so seriously interfere with the excretion by already damaged kidneys as to turn the scale in the outcome. Whether chloroform or ether be the agent employed seems to make but little difference in the effect; the result is often disastrous. Uremic poisoning must answer for more deaths after prostatectomy than any other cause, perhaps for more than all other causes combined. It is my belief that the demonstration of the practicability of removal of the prostate without pain or shock under spinal cocaine anesthesia, marks a great advance. With the known dangers of any general anesthesia and the apparent freedom of danger from this form of local anesthesia—it must come more and more into use in just this

class of cases—I say apparent freedom from danger, for I do not feel that the harmlessness of spinal anesthesia is proven. In a recent case, a feeble, weak-minded old man of seventy-six years, whose kidneys were badly damaged and in whom renal insufficiency was marked, operation was undertaken at the request of the family who felt that the sufferer must necessarily be sent to an asylum, and that the inability to void his urine would there subject him to great suffering. Enucleation was made under spinal anesthesia; the patient seemed absolutely unconscious of pain and the operation seemed to cause little or no shock. His mind became much clearer almost immediately—he was propped up in bed the second day, and recovery was proceeding in an orderly way when it was rudely interrupted four days after operation by an attack of pneumonia, apparently hypostatic.

I believe that the spinal cocainization had nothing to do with the causation of the pneumonia, but this we cannot know, and must content ourselves with the Scotch verdict, "not proven."

"Selection of cases" in our experience is an expression too often used to cloak timidity and to avoid interference in those cases which may swell a mortality rate. When the possibilities are understood by the patient and his friends, the surgeon must stand ready to endeavor to relieve, even at the risk of hurting his statistics. He must meet the indications and select the procedure best applicable to any particular case. The ability to do this wisely should be the goal toward which we strive. The choice of operation is a matter of importance. This choice is necessarily influenced by many conditions. The two lobes of the prostate in the process of development fuse in front and behind the urethra. Alexander says: "The layer of prostate behind the urethra does not enlarge; the enlargement occurs in the lateral and developing middle lobes. The middle enlargement may be of three varieties: First, muscular, those cases with a bar; second, glandular and then encapsulated; third, hypertrophy of mucous glands and tissue."

Cases in which this can be accomplished without serious disturbance should be carefully examined with the cystoscope. In many cases this can only be done at the expense of bleeding and trouble serious enough to outweigh the advantages. Can the diagnosis of muscular bar be accurately made, the Bottini operation might be considered, though this procedure is being less and less used. Ligature of the internal iliac arteries, vasectomy and castration have all proved disappointing. The relief from partial prostatectomy is not adequate to the risks, and continued growth of the remaining prostatic tissue is quite apt to nullify the results first obtained. So that it seems to me that the practical question is now, not whether we could advise catheter life, vasectomy, etc., but whether the case is suitable for prostatectomy, and, if so, what form of prostatectomy is advisable.

Three general schemes are available for total enucleation:

First.—The suprapubic.

Second.—The method of attack of the gland through the wall of the urethra by median perineal incision.

Third.—Exposure of the prostate by dissection and enucleation under guidance of sight as well as touch.

In spite of the strong claims made by the advocates of suprapubic operation, and notwithstanding the brilliant results of some operators, I believe the shock and mortality following the perineal operation is, and will prove to be, less than follows the suprapubic section. In addition, the suprapubic operation means inevitably the making of two wounds in the bladder, an incision in the upper bladder wall and a lacerated wound of the base with a larger or smaller blind pouch beneath, with freshly torn blood vessels and open lymph spaces, which become at once in many, yes, in most, cases the receptacle of septic urine.

Often there must be excessive mutilation of the floor and neck of the bladder, and it seems at least probable more frequently incontinence of urine following. Add to this the dangers arising from urinary extravasation and infection of the deeper pelvic planes, ever to be dreaded in the suprapubic operation. A surgeon possessing the operative skill of Freyer may enucleate many prostrates by this method without tearing through the capsule, but with the majority of operators this is a source of danger to be considered. In the perineal operation, while it is quite desirable that enucleation should be carried out without lesion of the capsule other than the opening made for the enucleating finger; even if such tearing should occur, no harm other than moderate bleeding from the prostatic plexus between the true capsule and the sheath derived from the pelvic fascia, is to be anticipated. In stout patients the great depth of the prostate from the surface in the suprapubic operation makes it difficult or impossible to avoid considerable laceration of the prevesical cellular tissue. This exposes patients to two serious complications—oozing, prolonged—of blood into the subperitoneal tissue and subsequent infection and cellulitis. In suprapubic operation subsequent drainage must be against gravity, and is often a source of serious trouble. The pocket left by enucleation is never completely emptied. The foul urine incident to the cystitis, commonly present, often becomes ammoniacal; the wound is apt to become sloughy and coated with phosphates. These conditions may delay healing for many weeks. The perineal enucleation is anatomically more direct; does not inflict a double wound on the bladder; does not open the prevesical cellular tissue; most important, perhaps, is the fact that drainage of the bladder, and after treatment are facilitated by a dependent opening. As between the perineal operations the operation described by Young, a modification of Proust's method, seems to me most satisfactory. The advantage of this procedure over that practiced by Albarran, Goodfellow and Bryson, is, that

the whole operation can be done quickly, but deliberately, under the direct guidance of sight as well as touch. This makes the operation much more adaptable to varying conditions. In the other perineal operation the surgeon must depend entirely on touch for guidance. In the Goodfellow or Bryson operation there must inevitably be wide destruction of the prostatic urethra, and it seems to me that the operator could not be sure of making a complete enucleation in all cases; also, that there would be greater danger of tearing into the rectum and bladder. The operation described by Young permits precise examination of the whole prostate within and without the bladder. The preliminary stages offer a method of exploring the bladder, which, for many purposes, is superior to a suprapubic cystotomy. Suprapubic lithotomy, with or without prostatectomy in adults, gives considerable mortality, but heretofore the obstacles imposed by enlargement of the prostate and the depth of the bladder have made lateral or median perineal lithotomy even more difficult and dangerous. Proust's or Young's method largely does away with these difficulties, and the bladder and prostate can be easily and safely opened through the perineum either for exploration, removal of calculi, or for complete or partial removal of the prostate. The open perineal operation, properly carried out, permits rapid and simple exposure of the prostate, and the complete enucleation should occupy little, or perhaps no longer time, than the suprapubic operation, or that by median incision and attack of the prostate through the urethra. There are certainly some conditions in which the suprapubic operation would be the one of choice. In patients having had previous suprapubic cystotomy, the prostate would be best approached from above. Cases in which stone is present and the condition of the bladder unknown, but presumably with enlarged prostate, would perhaps be best exposed from above.

In emergency operations with urinary retention—immediate relief demanded, and neither time nor facilities for a careful examination—a suprapubic opening would be indicated. In case of suspected stone—none found by search, but with known enlargement of the prostate, especially when the bladder is large and dilated—suprapubic incision would give better bladder exploration. With the tendency to earlier operation, and therefore more frequent operation, on younger men, the preservation of the ejaculatory ducts becomes in a larger and larger number of cases, a matter of grave import. With many the patient's age is such as to make this a matter of secondary importance, or his sufferings are so great as to impel him to seek relief even with this sacrifice. The intravesical prostatectomy almost necessarily demands total enucleation. Conservative operation, with preservation of the ejaculatory ducts in younger men, seems hardly possible by the suprapubic route. The claim made, that the ejaculatory ducts are not torn in the operation as made by Bryson, Goodfellow and others, seems to me improbable.

In individual cases this may be true, but in the generality of patients these ducts must be torn away. In the operation as made by Young, it is certain that in many cases the ducts can be isolated in the small median strip of prostatic tissue left behind and preserved. This is an immense advantage, and must be kept in mind in this connection.

But the fact which appeals most strongly to me, is that in Young's operation the entire procedure can be carried out with definite knowledge afforded by sight and touch, and just so much or so little of the prostate as seems best, can be removed quickly and safely; vesical stone can be easily and safely dealt with, and perfect drainage can be assured. I believe it is becoming, and will become, the operation of choice in the vast majority of cases. As its advantages come to be more widely and better known, and better known practically, it will, I believe, crowd out more and more the other methods of prostatectomy.

A STUDY OF THIRTY CASES OF CHRONIC NON-TUBERCULOUS JOINT-DISEASE OCCURRING IN ADULTS, WITH SPECIAL REFERENCE TO SOME OF DOUBTFUL IDENTITY*

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Thirty cases of mon-articular joint-disease of non-tuberculous origin, representing a variety of types, have been chosen for this report, for the the purpose of submitting them to a clinical analysis and of recording the results of treatment. The majority of the cases have been under observation from one to two years.

General Observations.

The sexes were represented equally, while the ages varied from seventeen to seventy-three years. Five had disease of the spine, three of the hip, three of the knee, one of the ankle, two of the elbow, and sixteen of the shoulder. Twenty-four were in good general health; of the remainder, a heart lesion was present in one, a hemiplegia in another, and a chronic nephritis in a third. Arteriosclerosis was present in several, and Heberden's nodes in three, in addition to the main joint lesion. Gonorrhea was frequently admitted in the histories, but its relation to the joint diseases was established in only three instances; syphilis had been contracted in two, in one of which it was apparently the underlying cause of the diseased joint.

The cases were arbitrarily divided, for the purpose of further study, as follows:

*Read by invitation before the American Orthopedic Association, Boston, June 8, 1905.

I. Cases characterized principally by hypertrophy of the joint.

II. Cases characterized principally by atrophy of the joint.

III. Cases of undoubted joint infection (in some of which erosion of the articular surfaces could be demonstrated).

IV. Cases of probable periarthritis, in which infection was at least uncertain, and in which no permanent changes in the joint could be definitely shown.

Of the hypertrophic variety (osteoarthritis of Goldthwait) there were seven cases, three affecting the spine, two the hip (one of these a patient of Dr. Steele's), and one each the knee and elbow. In these the process of hypertrophy could either be shown with the radiograph or, in the spine cases, could be assumed to exist from the symptom complex, especially evidences of pressure upon the nerve roots, such as intercostal neuralgia, numbness, and one-sided sciatica. All cases were men between thirty-five and fifty years of age, none of them arteriosclerotic. The duration of the disease was from twelve years to a little less than one year, the average being about six. None of these cases had ever had an acute rheumatic attack; in all, the disease had come on gradually, and in all but one case the joints involved, were those subject to weight bearing, and therefore not easily protected from strain and constant irritation. In only one (the elbow) could a definite primary cause (syphilis) be assigned; trauma seemed to bear a definite relation to the disease in only one case. In all, save one, in which the spondylitis had been about the same for two or three years preceding the time the patient was first seen, the disease had been progressing pretty steadily for the worse, without any long periods of quiesence, hence any change following treatment may properly be ascribed to the treatment. This has been mainly the use of jackets in the spine cases, coupled with total rest in bed for several weeks in two, on account of sciatica; a spica and high sole in one of the hip cases, and the use of a cane in another; partial fixation of the knee in a leather support, and the administration of potassium iodid and biniodid of mercury in the case where the elbow was affected. But two of the seven can be said to be well, one of them in whom the spine had been affected the shortest time (fourteen months) has no symptoms and is wearing a jacket only for safety; the other, under antisyphilitic treatment continued with interruptions for a year, has had no symptoms for two or three months and has regained almost complete motion in the elbow, once considerably limited. A radiograph taken at the time of writing shows no absorption of the hypertrophied tissue, the appearance being about the same as in the one taken about a year ago; it may be questioned if this is a complete recovery, since evidence of disease still remains. Three cases (a spine, a hip and a knee) have been relieved, and in two (a spine and a hip) practically no change has taken place.

There is but one case in the series in which atrophy of the joint is the

main feature. This was a woman of thirty-six, the disease having existed six years; the left knee was ankylosed in the fully extended position, due to confinement in plaster for two years. There was no swelling of the soft parts. The radiograph shows a very marked and extensive atrophy of the joint and neighboring bone, The atrophic joint, commonly seen in the disease designated by Goldthwait as "rheumatoid arthritis, or "atrophic polyarthritis," since the latter term characterizes its main feature best, differs materially both in its clinical aspects and its skiagraphic appearances from the one just described. It is doubtful if this particular case represents a well established type of joint-disease; it is more reasonable to suppose that it is the end result of a chronic joint affection, the atrophy being explained by the total disuse. In this case forcible manipulation under anesthesia resulted in a movable joint with about 60 degrees of flexion allowed, even after such a long period of non-use.

In five cases infection could be pretty well established. Two of these were cases of spondylitis in young adults; one developing directly after childbirth and coincident uterine infection (probably not gonococcal) presented acute symptoms with a rigid spine, the patient recovering entirely, wearing a jacket and later a back brace, in four months, except for stiffness which gradually disappeared under graded exercises in about eighteen months. The other case occurred in a young Irish laborer and was at first thought to be osteoarthritis, considerable muscular rigidity of the lower spine without sciatica being present, pain having existed a little over a week. A jacket was applied, but in a week the patient had become so much worse that he was admitted to the hospital, where he died three weeks later of typhoid. That this was a typhoid infection of the spine seems quite probable, although infection at so early a period must be infrequent. A postmortem was not obtained.

The remaining cases of joint infection had definite relation to gonorrhea, one, however, following a sprain of the ankle in a man who had a urethral discharge for a number of years. The individual joints affected in the three cases were the hip, knee and ankle. Brisement force in the first two, for the relief of stiffness, accomplished with some difficulty where the hip was affected, since the pelvis could not easily be immobilized, resulted rather contrary to expectation, in restoration of a slight amount of motion to the hip, enough to be of some value, however; no motion whatever was obtained in the knee, although the malposition was corrected. The ankle-joint, the only case seen early enough to make operative intervention of any value, was opened, including the tendon sheaths, one or two erosions being found on the astragalus. Unidentified diplococci were seen in slides made from the tendon sheaths, but no organisms could be grown on culture media. Although this case has recovered without complete ankylosis, some stiffness is inevitable.

FIG. 1.—Hypertrophic arthritis of the hip.

FIG. 2.—Atrophic arthritis with absorption of cartilage and rarefying changes in the internal structure.

FIG. 3.—Normal left knee of case shown in Fig. 7 (for comparison).

FIG. 4.—Infectious arthritis of the knee with cartilege erosion, due to the gonococcus.

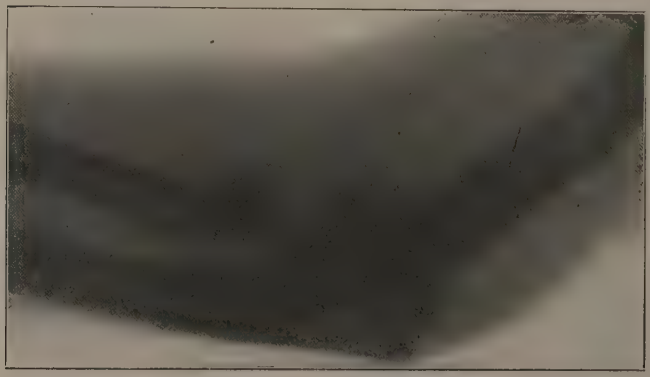

FIG. 5.—Hypertrophic arthritis of the elbow, due to syphilis, with formation of nodes.

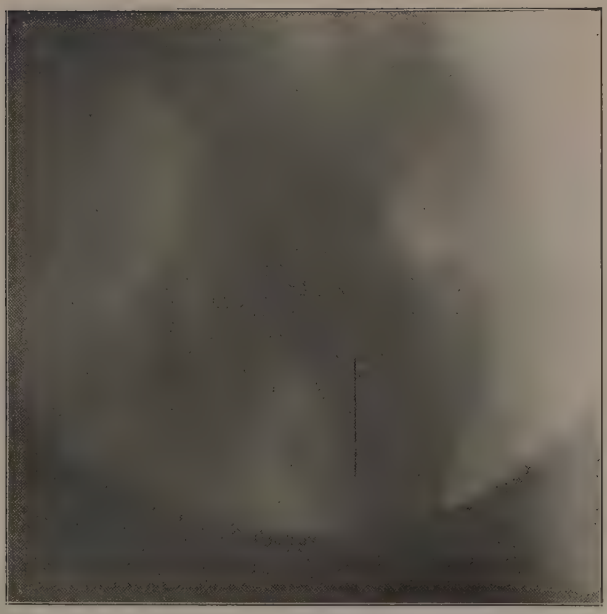

FIG. 6.—Infectious arthritis of the hip with obliteration of the joint and ankylosis, due to the gonococcus.

FIG. 7.—Severe and long continued disease of the shoulder with fibrous ankylosis, due to deltoid bursitis of probable infectious origin. No joint changes with the exception of slight atrophy.

FIG. 8.—Hypertrophic arthritis of the knee, showing lipping of the articular surfaces and bony deposits in the tendon sheaths.

The remaining cases (seventeen in all) to which special reference is made in this paper, were not characterized by hypertrophy or by any considerable degree of atrophy of the joint, and in them infection could not be established as the cause. All of these involved the shoulder except one, that case being of the elbow. The latter occurred in a woman of fifty, the joint being swollen and sensitive without apparent cause or connection with any illness for several months, and without rise of temperature or constitutional symptoms. The radiograph showed nothing. Incision was suggested but refused. After a good many months of partial fixation and later massage and exercises, nearly normal mobility has returned. Of the sixteen cases where the shoulder has been affected, nine were women and seven men, the ages varying from thirty to seventy-three years; in two cases there had been a previous "rheumatic" attack. Since most of these were very similar in many of their aspects, and perhaps represented a definite disease, a brief description is given. The affection is an inflammatory disease of the shoulder characterized by severe pain referred to the anterior part of the joint; the point most painful to pressure seems to be the anterior portion of the head of the humerus, and is quite sharply localized. The pain is often radiating either down the arm or across the scapula. In the early stages, muscular spasm is very pronounced and sometimes the slightest movement causes extreme pain, severe at night, and interfering greatly with the patient's rest. This often goes on for months with gradual improvement and in time the pain disappears, although it may persist to some extent indefinitely. After a number of months in the untreated or improperly treated cases, and occasionally in those which are treated properly, a stiff shoulder results, sometimes the motion being slightly limited, but more often only a small portion of the normal. Most of these patients were seen after the acute symptoms had subsided, and they came generally for the treatment of disabling stiffness and vague pains. Physical examination in those seen early showed very little except the point of tenderness just mentioned, marked spasms of the muscles, and in one or two cases visible swelling. In the cases where the trouble had persisted some time there was still localized tenderness occasionally with generally a slightly appreciable thickening about the joint and sometimes extreme limitation of motion produced by adhesions and adaptative muscular shortening. In a few instances, a severe grade of muscular atrophy, mostly of the deltoid and subscapularis, was noted in addition, and in these the true nature of the trouble had been invariably unrecognized.

Of the sixteen cases four were in what might be called the acute stage, that is they were seen within the first few days or, at the most, not after two weeks had elapsed since onset, and where a good deal of tenderness and muscular spasm existed. Fixation of the arm in a Velpeau bandage, the use of a sling later on, and careful supervision for several weeks

longer, was successful in preventing subsequent disability. Five were seen after the trouble had existed from several weeks to two or three months, and where pain and muscular spasm still persisted. These were treated with a sling for protection but not by complete fixation, and in from three weeks to two months they were free from pain, the stiffness, however, remaining. In addition to these, seven cases were seen in which pain, at least to any degree, was absent, and stiffness only was complained of. Of these twelve cases taken altogether, where stiffness demanded treatment, nine consented to manipulation under anesthesia. Full surgical anesthesia was always given, the scapula being held firm, either by the operator or by the assistant, and the arm forcibly abducted and circumducted. In some cases the adhesions gave way easily, in others it required an almost dangerous amount of force to free the arm. Following this the arm was immobilized for twenty-four hours, after which manipulations were commenced, these being kept up in some cases twenty or thirty times a day, if the patient could endure it and no ill effects resulted. In a few days active exercises were instituted, such as hanging out clothes, swinging weights, reaching for things, etc. In but one instance did any severe painful reaction follow these measures, and this lasted only a week or ten days, which delayed complete recovery but little. Whether in this case manipulation under anesthesia was employed too soon and before the active disease had subsided, or whether it could be called a recurrence, is uncertain.

The final results in these cases have been particularly satisfactory; with increasing use of the arm, pain has disappeared, even excessive muscular atrophy has passed away and in from eight weeks to four or five months practically complete recovery has taken place. In a few cases a slight limitation of motion in extreme abduction has remained, but it in no way interferes with the ordinary use of the arm; in no case so far as is known has there been any recurrence of the trouble. In those cases where manipulation has been refused or thought inadvisable on account of the danger of anesthesia, two remain about the same after many months, while one has gained enough abduction by constant exercising during two years for good functional use, this being largely due, however, to increased scapular mobility. The cases in which the shoulder has been the seat of trouble represent a fairly constant inflammatory process of that joint, in most cases probably largely of the capsule, periarticular tissues, the tendon sheaths in the neighborhood of the joint, constituting a so-called pariarthritis, and although they are not difficult to recognize, the etiology and exact nature of the disease seems to be in some doubt. In a series of ten cases which were reported by Dr. Allison and myself,[9] and which were described in detail, the etiology was thought to be always traumatic, although in some cases the injury must have been so trivial as to make its relation to the joint trouble uncertain. Since this report was published a number of additional and

apparently similar cases have been observed and in many of these cases trauma was not the cause. Why trauma, sometimes of a degree that would not affect an ordinary healthy joint in the slightest, should cause such a severe and long-continued joint disturbance unless some other factor be present, remains to be explained. As has been said, these cases were of both sexes and occurred in those of good health and those of poor health apparently indiscriminately, although they were commonest in those of middle life and beyond. That some were not cases of beginning hypertrophic arthritis of the shoulder was at first questioned, but further study, especially with the radiograph, showed that none were of this type. It is quite possible that many of them were infections or toxæmias, but that the process was not of sufficient severity to seriously damage the joint is shown by the negative radiographic appearances and the practically complete recovery in every instance where the proper treatment was carried out. Moreover, the association of some of them with trophic disturbances of the fingers, with hyperæsthesias, with hemiplegia in one instance, and with a severe muscular atrophy taking place within a few months which occurred in several, gives room for doubt as to whether they are all of similar etiology even if resembling one another clinically and yielding to treatment with practical uniformity.

(Since this paper was read, Dr. E. A. Codman of Boston has demonstrated a number of similar cases as subdeltoid bursitis, and it seems probable that most, if not all, the cases reported as "periarthritis" belong in this category.)

Summary.

In summing up, what are regarded as important or significant features in this collection of cases are submitted for any value or interest they may have. A consideration of what has been shown by Goldthwait,[1,2,3,4] McCrae,[5] Bradford,[6] Richardson,[8] and others has not been attempted in connection with this report, for obvious reasons.

That osseous hypertrophy occurred in these cases entirely in the male sex and almost exclusively in the weight-bearing joints is perhaps worthy of mention. The importance of syphilis as a cause of joint hypertrophy is probably not great, and the case reported is probably exceptional and not at all typical. Goldthwait[1] found as an apparent cause of osteoarthritis of the spine exposure to sudden changes of temperature, while Blodgett,[7] in a series of eleven cases of morbus coxæ senilis, attributed the cause to occupation trauma. In the few cases I have had the opportunity of seeing, these causes have apparently played no important part in the production of the disease. The moderate success achieved in the treatment of these cases should also perhaps receive notice.

The single case of severe joint atrophy (of disuse) is regarded as an anomaly and not a disease type in any sense, although of passing interest. The imperfect results in the restoration of joint function, in

the gonococcus infections, especially those not subjected to early open operation, are of some significance. Finally I wish to direct special attention to the frequency with which the shoulder is apt to be the subject of a disabling joint lesion, the importance of trauma as a probable cause in many instances, and the satisfactory results of a logical method of treatment adapted to different stages of the disease.

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SOME CONSIDERATIONS ON THE TREATMENT OF DIABETES MELLITUS.*

By Ralph W. Webster, M. D., Ph. D., Chicago.

According to von Noorden, diabetes is a disease in which the power of the organism to oxidize (verbrennen) glucose is pathologically diminished. This definition naturally excludes from discussion all conditions in which the metabolic disorder has to do with the improper handling of lævulose, maltose, and other carbohydrates, by the organism. It likewise excludes those conditions in which a glycosuria follows the intake of large quantities of glucose or of starchy foods (so-called alimentary glycosuria), just as it excludes those disorders in which a glycosuria follows certain hepatic diseases in which a normal or abnormal amount of sugar is allowed to pass through the liver without being converted into glycogen. This latter is the so-called glycosuria of hepatic insufficiency, and has nothing to do with the true diabetic condition. I shall not attempt in this paper to go into the subject of the intermediate oxidation products of carbohydrates, because a proper handling of the points concerning glycuronic acid and its influence on metabolism, would in itself

*Read before the Tri-State Medical Society.

consume my time. I shall briefly point out certain facts concerning the physiology, chemistry and pathology of the carbohydrates, and then discuss a few etiological and pathological points regarding diabetes itself, before I consider the treatment, inasmuch as a proper understanding of these general facts is necessary before one can attempt a rational treatment of such a disorder.

The condition of diminished oxidation, or of improper handling of glucose, is manifested by a glycosuria, which of necessity is preceded by a glycæmia. A glycosuria must occur whenever the amount of sugar in the blood exceeds 3 P. M. We may thus have a glycæmia with resulting glycosuria from enteric, hepatic, pancreatic, muscular and nervous disorders, although the glycosuria following administration of phlorizin is probably of renal origin and is not accompanied by a glycæmia.

That a physiologic glycosuria exists, just as does a physiological albuminuria, is beyond dispute. The border line between the physiologic, alimentary and hepatic glycosurias on the one hand, and a diabetic glycosuria on the other, is hard to outline. In alimentary or in hepatic glycosuria, we find that the trouble may be directly traceable to a disturbance in the proper handling of the carbohydrate ingested. In true diabetes we have a disorder in the metabolism, not only of the ingested but also of the tissue carbohydrates. The milder types of diabetes seem to yield to treatment when the intake of carbohydrates is reduced to the point of tolerance, while the graver forms of this disease are not markedly affected, by the withdrawal of saccharine food. We see, therefore, that an alimentary glycosuria may merge into a true diabetes of the milder type, and later into one of the severer forms.

Time will not allow a discussion of the general metabolic processes by which the carbohydrate is absorbed, converted into glycogen, stored in the liver, oxidized into alcohol, glycerine, fatty acids, and carbon dioxide (not to say anything concerning saccharic, gluconic, glycuronic acids, etc.), and finally excreted. These processes are well known and need no elaboration.

Diabetes, then, being a disorder of the processes having to do with carbohydrate metabolism, Bosanquet to the contrary notwithstanding, it is wise to find out what the causal factors are, and what their significance and results. The etiology of diabetes is, in many cases obscure, but in others pancreatic disease, syphilis, infectious diseases, neurotic affections, constitutional diseases, such as gout or obesity, trauma, errors of diet, etc., act as exciting causes. With such an etiology various pathological findings are possible; hence it is difficult to judge just what abnormal conditions are accompaniments of, or causal of diabetes. The common classification of diabetes as nervous, hepatic, pancreatic, muscular, etc., is irrational, inasmuch as the so called hepatic diabetes for instance is not diabetic, but rather a simple glycosuria of hepatic insufficiency.

From the time of the discovery of diabetes, following puncture of the floor of the fourth ventricle by Bernard, we have granted to certain nervous troubles a prominent place in the causation of diabetes. By far the most important place is now given to diseases of the pancreas, following von Mering and Minkowski's discovery of experimental diabetes on removal of this organ. The frequent relation of disease of the pancreas to diabetes, as well as consideration of the function of this organ, has led many to the belief of a causal relation of disorders of the pancreas to diabetes. This relation is particularly noticeable in diseases involving the Islands of Langerhans. Yet, one must say that post-mortem findings do not in all cases bear out this assumption. In this connection I must mention the work of Cohnheim, showing the relationship of extract of pancreas to that of muscular tissue on splitting of carbohydrates. The effect of combined extract of muscle and pancreas in reducing diabetic glycosuria has been shown by Croftan prior to Cohnheim.

It must be remembered that the treatment of diabetes has in all cases a strong subjective factor. It is impossible to lay down rules which will be applicable in all cases, inasmuch as each case is a law unto itself. I shall, therefore, not attempt to dogmatize in this paper, but shall rather point out certain factors involved in the treatment of this disease with special reference to the dietetic management, leaving the prophylactic, etiologic and symptomatic treatment more or less untouched.

In the beginning we must have clearly in mind what points we wish to attack in our treatment of diabetes. In the milder forms of this disease the glycosuria, polyuria and polydipsia are the factors mainly involved, while in the graver cases the excretion of the acetone bodies with impending coma, challenges our efforts.

Regarding the glycosuria, we must remember that in true diabetes this symptom arises both from a disturbance in the metabolism of the ingested carbohydrate, as well as from an increased metabolism of the tissues of the body. It has been shown that 45 gms. of carbohydrate are elaborated in the metabolism of 100 gms. of proteid. Hence we see why in the graver cases, carbohydrate is constantly excreted on a carbohydrate free diet, owing to the two factors of improper handling of the carbohydrates of the tissues and the constant formation of carbohydrate from the proteid constituents, both of food and of the tissues. The glycæmia preceding the glycosuria is in all cases responsible for the polydipsia, inasmuch as the excess of sugar in the blood brings about a hypertonicity of this tissue, and as a result causes water to pass from the solid tissues into the blood. This interchange of fluid between two tissues separated by a semi-permeable membrane is a well-known fact, founded on the established laws of osmotic pressure. The kidneys, as the osmo-regulator of the blood, remove the excess of fluid and thus bring on a polyuria. The abstraction of the water leads to polydipsia and other symptoms attendant on drying up of mucous membranes and of skin. If, therefore,

we relieve the glycosuria we relieve the other symptoms of the milder form of the disaase.

The most ominous symptom of diabetes is not the glycosuria, but the excretion of the acetone bodies, acetone, diacetic acid and B-oxybutyric acid. Not all cases show excretion of these bodies, but most do. It must be remembered that the less acetone and the more diacetic acid and B-oxybutyric acid are excreted, so much more doubtful becomes the prognosis. There are cases in which no acetone, only slight amount of diacetic acid, and large amounts of B-oxybutyric are excreted. It is such cases that put us to a severe test to ward off a certain coma and probable death. It is not my purpose to go fully into a discussion of the origin of these bodies, but I must take up a few points of their pathological chemistry, inasmuch as the therapy of diabetes is dependent on a knowledge of these factors.

For a long time it was supposed that sugars were not only accountable for the glycosuria, but also for the acetonuria and acidosis. In the advances of pathological chemistry, it has been shown that, instead of causing these latter symptoms, sugars in reality lessened them. This can be shown by the fact that administration of a certain amount of sugar will, especially in the milder forms of this disease, usually diminish an acetonuria in a patient from whose diet sugars were previously excluded. The exclusion of sugar from the diet forces the organism to utilize its proteid material and thus gives rise to an accumulation of nitrogenous metabolic products as well as to an increase in the acids of the body fluids which may aid in increasing an acidosis already present. With regard to proteids as the mother substances of these bodies, we must admit that their influence is to some extent, a double one. In the first place, proteids of food tend to diminish the acetonuria on account of their carbohydrate content, yet with a diet of excessive proteid, their influence is not of this sort. On account of the acids, particularly sulphuric and phospheric, formed by their splitting, the proteids tend to increase an acidosis, while the excessive carbohydrate formed (45 gms. from 100 gms. proteid) by the hydrolysis of these proteids may greatly increase an existing glycosuria. These points, together with the fact that the products of nitrogenous metabolism may greatly increase the osmotic equivalent of the blood and thus lead to disordered cell-function, show us that proteids cannot be advantageous as an exclusive diet in diabetes.

Concerning the fats we must say that, although previously accredited with no power of influencing acetonuria or acidosis, today they are regarded as directly influencing these conditions to a great extent. This is true of the fatty acids and not of the neutral fats. If the contention of Castle and Lœvenhart be true, that a reversible action of lipase converts the fatty acids and glycerine, formed by a previous hydrolysis, again into neutral fat, then the influence of fats on the acidosis is small.

Yet, notwithstanding, we know from experience that increase in fat of the food will, almost invariably, increase an existing acidosis. Although sugar is formed from fat in the organism, this sugar seems to be readily oxidized, as no direct influence on the glycosuria is noted after increase of fat. It is entirely possible that in diabetes a marked disturbance of the normal fat metabolism exists, as Bosanquet advocates, and in consequence the fatty acids, formed by the hydrolytic splitting of the neutral fats, are not resynthesized. If this be the case, then we can readily see how fats may increase an acidosis. This influence of fats on the acetonuria and acidosis is not long continued; hence we may usually use fats up to the limit of tolerance, although in some cases we must rather diminish than increase them.

A few points concerning the calorie value of food for a normal and for a diabetic, and then the field is clear for a more precise discussion of the dietary in the disease under treatment. The most exact and scientific way of constructing a dietary consists in estimating the calorie need of the person and then in giving him a diet which will maintain him in nitrogenous as well as in carbonaceous equilibrium. Whether a diet does or does not do this must be determined by an examination and comparison of his ingesta with his excreta. I have no time to discuss the important topic of nitrogenous equilibrium, but I must insist on its maintenance if a dietary is to be of its full value.

It has been shown that the average person needs 30–55 calories per kilogram and per day, depending on his mode of life and occupation. A certain balance of proteid, carbohydrate and fat is necessary for the maintenance of the body in healthy equilibrium, each person being a law unto himself. It is generally accepted that 1.3 to 1.5 grams of proteid per kilogram and per day are necessary, while the remaining values may be brought up by fat and carbohydrate according to the taste and desires of the patient. Usually the carbohydrates exceed the fats in amount, as the latter are not easily borne and as they "satisfy" earlier.

A diabetic differs, however, from a normal being, because he cannot assimilate carbohydrates to such an extent. In consequence his needed calorie value must be made up largely by increasing the proteids and fats and reducing the carbohydrates to the point of tolerance. It must be borne in mind that such a procedure may not result as we expect, owing to the influence of the proteids on the glycosuria, and that of the fats on the acetonuria and acidosis. The most reliable means of following the metabolism of the proteids and fats, as regards their influence on the acidosis, is, of course, the ammonia excretion. The greater the excretion of this substance, the greater the acidosis and the more probable the approach of coma. An exact and theoretically, as well as practically certain method of combating and warding off the coma is the saturation of the system with $NaHCO_3$, to neutralize the acids which are the causes of the comatose condition. This treatment may be used

either per os or intravenously, but never subcutaneously, owing to the liability of gangrene in the latter procedure. The diet of a diabetic must be so ordered that his strength shall be maintained and, if possible, bettered. Naturally the glycosuria and acetonuria must be the clews of the proper working of his dietary. In the milder cases it is usually sufficient to restrict his carbohydrate diet, but in the graver cases a strict carbobydrate free diet may be necessary with an occasional relaxation to a slight carbohydrate diet to offset the effect of the carbohydrate free diet in increasing the acetonuria and acidosis.

One of our earliest findings must be the tolerance of the patient for carbohydrates. This can be done by administering a definite amount of glucose (100 to 200 gms.) and observing the amount of excretion of the same. To maintain the diabetic in equilibrium, we must increase his dietary above that prescribed for a normal of the same height, age, etc., by the calories equivalent to his loss of carbohydrate in the urine. By this I mean, if a patient is given 150 grams of glucose and excretes 75 of this, then his diet must be increased beyond that normally given him, by 308 calories. In calculating the calorie value of fats, it is well to remember also that 9.3, the calorie value of 1 gram of fat in the dietary of a non-diabetic, must be reduced to 6.5 to 7 calories, to allow for the conversion of a portion of the fat into sugar and its later metabolism as such.

I must mention here that the addition of alcohol in its various forms is usually a convenient way to raise the calorie value of a dietary. However, care must be taken to exclude to a great extent such alcoholic beverages as beer, champagne and the sweet wines, owing to their large carbohydrate content.

I shall not attempt to give a list of articles of diet which should be used and those which should not be used, as no two cases are alike as regards the dietetic management. It would be irrational to say that no diabetic should use potatoes, for instance, as many thrive excellently under proper use of this staple article. I shall rather mention briefly some of the recent so-called cures, and discuss more or less in detail, the advantages of one of these—namely: The oatmeal cure of von Noorden. In times past various combinations of diet have been advocated for the treatment of diabetes. They are all based on the idea that one kind of starchy food is better tolerated than a mixture, and that, occasionally one carbohydrate, as lævulose, for instance, may be utilized, while an other may not. Regarding the use of lævulose, we must remember that this carbohydrate is well borne by the diabetic organism for a time, but that after a certain interval, varying in each case, this lævulose appears in the urine in place of glucose, and we then have a so-called lævulose diabetes.

Such cures as I mention above are the potato cure of Mosse, the rice cure of von Duhring, the milk cure of Winternitz and the oatmeal cure

of von Noorden. This last I dwell on for a short time, as I have within the year had excellent opportunity of watching its effect under von Noorden in Frankfurt. The treatment consists in the administration of small amounts at frequent intervals (usually of two hours) of a gruel made of 250 grams of oatmeal, 100 grams of proteid, and 250 to 300 grams of butter with some water and a little salt. The calorie value of this mixture is higher than ordinarily needed, but it aids in maintaining the strength of the patient at a high standard. Recent work of Lipetz seems to show that the absorption is not complete, and, in consequence, the calorie value is not all available. The diminution of the glycosuria is sudden and marked, the acetonuria is reduced, and tolerance for carbohydrates is, in most cases, increased, while in others it is diminished. It is in those cases which show a large glycosuria and a large excretion of B-oxybutyric acid that this, as well as other cures, fails to give the results desired. Such cases show a remarkably low power of oxidation, and have, therefore, a very grave prognosis. This cure is by no means advocated as a cure-all, but does in a certain percentage of cases give wonderful results, and is, therefore, worthy of trial.

In summing up what I have said previously, I wish to impress on you the dangers and fallacies of an exclusive proteid diet as well as those of a diet containing a minimum of carbohydrate, and an excess of fat. A proper balance of these constituents is as vital to a diabetic as to a normal being and must be as accurately and as scientifically calculated as possible, if good results are to follow. The dangers of increased glycosuria and acidosis can best be fought by a properly regulated diet; hence it is only rational to exert our every effort to find out just what diet is best suited to the case under treatment. The old diet tables, which have done good service in the past, have succeeded not because of, but in spite of, their characteristics. To cut off carbohydrates to the point of exclusion may be, in some cases, absolutely homicidal, while in others it may be a necessity; so one can never say empirically what sort of diet will best suit a certain case. The treatment is long and tedious, but if scientifically carried out, will yield results which will be to the satisfaction both of patient and physician. Do not be discouraged if one line of diet does not bring the desired result, but rather try the harder to find out just what factors are at fault and remedy them. To do this you must bring to bear all your knowledge of composition of foods, of their absorption, metabolism and excretion. By so doing you will almost always find your reward in the betterment of the condition confronting you.

Just a word concerning the diagnosis of glycosuria, and then I have finished. Do not assume that you are dealing with an excretion of sugar if your Trommer's, Fehling's, Haines' and other reduction tests show a marked reaction of cuprous oxide. Always remember that such substances as glycuronic and glycosuric acids, uric acid, kreatinin, etc., give

this reaction, and hence may lead you astray. It is better to rely on your fermentation and phenyl-hydrazine tests as a routine, than to be led into error by the reduction tests. These latter reactions have only a negative value and can never prove the presence of sugar to the exclusion of other reducing agents which are present normally and abnormally.

I will close my brief remarks by cautioning you to individualize each case of diabetes rather than to follow empirical rules. By so doing you will avoid many pitfalls which may later lead you into greater difficulties and dangers. Regarding the signs of approach of coma, I would advise a very careful examination of the urine for increased ammonia and an administration of $NaHCO_3$ whenever the relation of ammonia nitrogen to total nitrogen equals 10 per cent. or over. Such an excretion means an almost certain danger of coma and should be carefully watched.

Time will not allow me to go further into the many interesting and important factors in the treatment of diabetes, yet if I have succeeded in bringing out any new ideas and have advocated sufficient caution as to the individual treatment of each case of diabetes, then will I consider my time well spent and my effort well paid.

CONGENITAL ENTEROCYST, WITH REPORT OF CASE.*

By P. Y. Tupper, M. D., St. Louis.

In the growth and development of the human embryo the changes in the arrangement of the intestinal tube are so radical and varied that no wonder is expressed when anomalies regarding its distribution are presented. That the original short straight tube representing the entire alimentary canal can, in a few months, become so elongated, twisted upon itself and subjected to such radical changes of form and position and yet with so few departures from the normal, is one of the greatest wonders of fœtal development. The stomach not infrequently retains to a marked degree its original vertical position, presenting the clinical picture of one who vomits easily or whose stomach can be readily emptied by a reversal of position. It is well known that the infantile stomach, because relatively vertical, can be promptly emptied by turning the babe upside down. Again, an undescended cœcum presents itself occasionally, giving us appendiceal disturbances high up on the right side, instead of at the normal site in the inguinal region. All degrees of deflection from the normal, varying from the simple ones mentioned to an occasional striking case of situs inversus, challenge our

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attention from time to time. These are abnormalities referable to faulty or arrested *distribution* of the viscera. More interesting and complicated, however, are those pathological conditions that bespeak an arrest or an abnormality in the *development* of these organs. As germane to this general subject I report briefly a case which for more than ten years challenged my interest and thought:

H. S., of Bowling Green, Missouri; female; born February 28, 1892. Parents healthy. No other children. No complications incident to pregnancy or delivery. At birth the child seemed strong and natural in every way except for the existence of a large sac, containing fluid, that occupied and protruded from the region of the inferior pelvic outlet. This mass, according to reports gotten from several physicians who examined the child at birth, was about four or five inches in its greatest transverse, and probably seven or eight inches in its vertical measurement. The skin covering it was thin and smooth, and the sac fairly tense with the contained fluid. On manipulation and pressure the fluid could not to any extent be displaced from the sac, nor were any symptoms referable to the central nervous system produced by such pressure. The skeleton seemed normal in every way except for the seeming lack of development of the lower portion of the vertebral column. The coccyx was absent, and also a small part of the distal portion of the sacrum, making the outlet of the pelvis unusually large. The sac protruded posterior to the rectum and forced this organ and the uro-genital tract, firmly forward under the pubic arch. Rectal exploration could not determine accurately the height to which the sac extended in the pelvis, and was helpful only in defining the position of the sac as being between the rectum and the posterior parietes.

When the child was three days old the cyst was tapped by Dr. Gregory in the presence of local physicians, and about three pints of a murky fluid were drawn off. This was given no chemical or microscopical examination. No apparent affect on the child was produced by the evacuation of the fluid. The growth of the child was uninterrupted, but the sac was tapped a second time during the first year of her life. After this there was no great reaccumulation of the fluid, the cavity continuing to discharge passively for a time through the opening last made by the trocar.

It was my privilege to see and examine the child many times during the first eleven years of her life. The cyst cavity eventually became almost entirely obliterated, the process of obliteration extending from above, downward. With increasing growth and development of the child the integument overlying the mass distributed itself in thick vertical folds and deep sulci, but in several places the original cavity persisted in the form of closed spaces containing fluid. One of these, in the right lower quadrant of the growth dorsally, as shown in the picture, was almost spherical and contained about an ounce of fluid at the

time of operation. Although repeatedly asked by the parents to operate for the removal of the pendulous mass, I did not do so because it seemed to occasion the child no discomfort and she was not sensitive regarding its existence. However, at eleven years of age the growth showed irritation from pressure and the friction of clothing, and the child became highly sensitive because of the disfigurement. It also interfered with the sitting posture unless the child sat perfectly upright. The semi-reclining position caused such pressure upon the growth as to be unbearable, and lying on the back could be tolerated only for a short time. On March 4, 1903, I removed the mass by making anterior and posterior flaps extending transversely across its base. At the site of section the original cavity of the cyst had been completely obliterated, and the tissues were quite dense and but illy supplied with blood vessels. A superficial infection occurred in the wound probably because of the proximity of the anal orifice, but it did not interfere materially with the recovery of the child.

Her physician, Dr. M. O. Biggs, of Bowling Green, Missouri, tells me now, two years after the operation, that the child is strong and well in every particular, and with the exception of a transverse scar just posterior to the anas, no evidence of the former trouble exists.

The following is the report of Dr. Carl Fisch who examined the specimen:

"The coccygeal tumor submitted to me for study (case H. S.) on March 6th proved to be a congenital tumor arising from proliferation of the blind end of the primary intestinal tract under participation of mesodermic tissue. In pathological parlance it must be called an entero-cyst.

"The tumor (to judge from the specimen submitted) was attached with a broad base; its transverse diameter is about 1½ that of the longitudinal diameter, while the highest elevation over the surrounding skin surface must have amounted to 6 c.c. The base forms only the smaller part of the inferior surface, as the tumor tissue all around it overlaps considerably. The surface is very irregular showing a great number of larger and smaller fissures, suggestive of cerebral convolutions. It is everywhere covered with intact epithelium on which the openings of the cutaneous glands and hair follicles are seen. The consistency of the tumor is hard and tough. In one-half of the tumor an incision opens a cyst in the preserved specimen about the size of a small egg. It is empty and its inner surface is undulating and uneven. On cutting into other sections of the tumor a small number of smaller cysts with whitish grumous contents are discovered. Their inner surface is smooth. There is no connection between the large cyst and the spinal canal. The base of the tumor was examined for evidence of it, but without result.

"The microscopic examination of the tumor showed that the greatest part of its substance consisted of connective tissue types of fibrous tissue

and fat tissue. These two forms were interwoven in the most diversified ways. The fat tissue showed nothing abnormal, except that nowhere the typical lobulation was seen. The fibrous tissue varied in its character greatly; a great part of it was present in the form of very hard, callous masses, showing hyaline changes, and exceeding scarcity in cells. This could gradually be seen to change into loose areolar tissue masses, or into masses of actively proliferating fibrous tissue. In the latter, again, places appeared of altogether embryonic character, with very scanty development of the intercellular substance and small round cells. Elastic tissue was very abundant, and showed in some

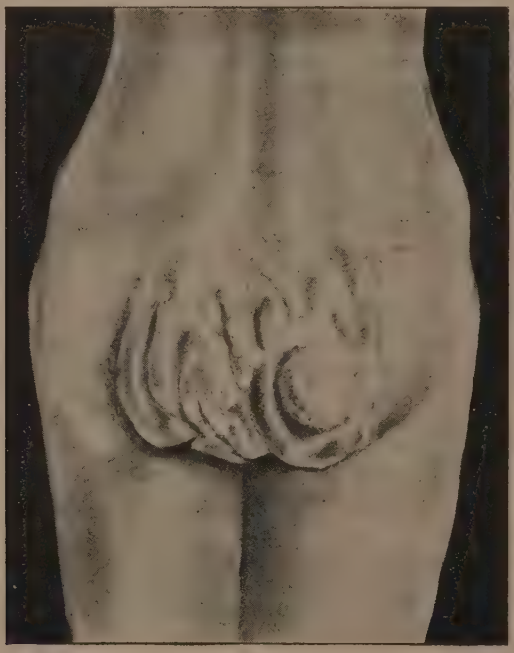

FIG. 1.

places an excessive development. Muscle fibers, osseous tissue or cartilage could nowhere be found. In those foci where the tissue bore the character of active growth, in some places small aggregations of larger cells appeared, that now and then grouped themselves typically in the form of glandular cells. These cells were more or less cylindrical, but not bounded against the surrounding cells by a limiting membrane.

"Towards the surface everywhere a zone was present, about corre-

sponding to the subcutaneous fat, and over it a stratum that, on the whole, corresponded to normal skin. There, too, in the corium, was observed a great extent of hyaline change; but the epithelium, hair follicles, sebaceous and sudoriparous glands appeared normal. The whole tumor was very scantily supplied with blood vessels; no large arteries were seen anywhere. The vessels themselves were of normal structure throughout.

"The lining of the large cyst was, in its superficial strata, in most parts destroyed. Only in the depths of the folds, now and then, some high cylindrical cells had remained, showing that originally the whole cyst had been invested with such an epithelium. Under the epithelium was found a layer of small round cells, in some places arranged in distinctly defined round groups, of considerable thickness, which were interrupted by bands of connective tissue. In some places here, some smooth muscle fibers could be demonstrated. The round cell layer was surrounded by a looser layer of connective tissue, that, in its turn, joined gradually with the massive hyaline fibrous texture.

"The smaller cysts showed the lining epithelium intact. It consisted of typical cylindrical cells, the nucleus situated near the base, and in some cases the appearance of goblet cells was very distinct. In these cysts the lymphatic sheath was very thin, consisting only of a very few cells. They, too, were surrounded by fibrous tissue.

"The arrangement of all of these different tissue elements was absolutely orderless (and such was the case in all of the different portions examined).

"To analyze the findings, the first thing to be considered is the presence of elements of mesodermic and entodermic tissue in an irregularly phantastic mixture. Although the former might be accounted for by irregularities of the growth in a benign tumor formation of the connective tissue type, certain characters speak even here against such an explanation, especially the behavior of the connective fibrous tissue, that in a fibroma never is found in this combination. Inflammatory causes, of course, are excluded. To this comes the presence of cells of entodermic origin, the lining of the cysts and the other epithelial structures. That they are entodermic is certain; that they belong to the anlagen of the intestinal tract is very probable, on account of the very close association, at least in the large cyst, with lymphatic tissue and unstriated muscle cells.

"Similar tumors have been described and been given the name of entero-cysts, meaning thereby that they arise from remnants of the usually altogether obliterated end of the primary intestinal tube.

"The tumor is, of course, benign and belongs to the great group of sacro-coccygeal growths, that derive their origin from normally obliterated portions of the surplus of the vertebral anlagen and of the neu-

renteric canal. It has nothing to do with the phenomena of rhachischisis and spina bifida."

The report of this case and the findings of the pathologist suggest a wide field of study, embracing those interesting groups of growths classed as teratomata, embryomata, dermoid cysts, pre-sacral tumors, etc. By common consent the term teratoma is not so fixed and distinct as that of embryoma, which embraces "those highly complex growths that contain tissues derived from all three of the given layers." In the former, however, one or more of the layers, generally the mesoderm or the entoderm, or both, may be represented in more or less of an order-

FIG. 2.

less arrangement. If in this complexity of arrangement elements of the three layers are found, then according to Warthin, the term embryoma is more desirable because more distinctive. According to Ziegler, Warren, Sutton, Payne, Warthin and others, the growth reported might be correctly classified under the general head of teratoma. The location, in close relation to the sacrum, is suggestive, as by far the larger number of teratomata are so located. The complex and confused mass of connective tissue, cellular elements, muscle and elastic fibers representing the mesoderm and the entoderm, also lends authority to this

classification. Conspicuously absent, however, are such structures as bone, cartilege, etc., that so constantly share in the makeup of teratomata wherever they are located, and which have given rise to a belief as expressed by Payne, that such incongruous masses represent "the remains of an abortive fœtus, a not-separated twin, or a monster by excess."

Ziegler defines dermoids as "cystic tumors whose limiting membrane repeats more or less perfectly the structure of the skin and which contains structures that are the peculiar attributes of the skin, such as sweat and sebaceous glands, hair follicles, teeth, etc." The notable absence of this in the case under discussion, takes it probably out of this classification.

Although here there was an absence of the coccyx and also the lower portion of the sacrum, nothing either in the clinical picture or in the macroscopical or microscopical findings suggests in any way a spina bifida or a growth connected even remotely with either the vertebral column or with the spinal meninges.

Virchow in his Archives reports an interesting and unique case of a tumor pendulous from the buttock of a new born African babe. The tumor was removed and sent from central Africa to Virchow under the impression that it was a lipoma. Dissection revealed a central space in the tumor lined with dura mater, it evidently being the sac of a miningocele—the space between the cavity in the tumor and a sacral hiatus which certainly existed, having been obliterated. The true classification of the tumor was immediately fixed by the lining of its cavity, although it was not granted the pathologist to examine the vertebral column of the infant. In cases like the one reported this evening, the exact classification is not so readily made; however, the preponderance of evidence as shown in the pathological findings, points strongly to the belief that the tumor is a so-called enterocyst arising originally from the usually altogether obliterated end of the primary intestinal tube.

Recall the fact that early in fœtal life this tube persists normally as a blind pouch, well removed from the parietes until reached by and made to communicate with, the inturned anal pit or fossa. In other words, until the growing together of the ectoderm and the entoderm has been accomplished. The failure of this coalescence results in the unfortunately well known imperforate anus. Piersol and Warthin point out that mesodermal and entodermal cysts owe their origin to the "persistence of fœtal glands or ducts or to misplaced entodermal or mesodermal epithelial enlage." When arising from "snared off and persistent" portions of the primary intestinal tube they are properly termed enterocysts. In like manner originate the terms adenocysts, myelocysts, omphalo-mesenteric cysts, etc.

The genesis of these respective growths can only be determined from anatomical relations and their structure. When the tissue misplacement is but slight and when the anatomical structure still maintains distinctly

the mother characteristics, the genesis and classifications may be readily determined. Difficulty of classification is necessarily increased by the orderless arrangement of the individual elements so often seen, inflammatory processes and degenerative changes.

The study of the literature bearing directly on congenital enterocysts other than that referable to their microscopic makeup is most unsatisfactory. For years I have lost no opportunity to seek out all publications pertinent to the subject so as to amplify my scant knowledge in this direction, but search has been well nigh fruitless.

Stern, in reporting the first case of congenital sarcoma of the intestine, stated that with the exception of the one case of congenital intestinal carcinoma narrated by Ahlfelt, literature offered nothing on the subject of congenital tumors or cysts of the intestines. Tito Carbone has described congenital adenomata of the intestine, and also reported as congenital, a small fungus tumor of the ileum which on microscopic examination seemingly proved to be a mucous membrane polyp which had undergone carcinomatous degeneration. As early as 1855 Forster (Handbuch d. Allgemine Pathologie) published an important work on human malformations, and first gave a practical idea of sacral tumors by dividing them into unattached and subcutaneous parasitic growths and congenital sacral cysto-sarcomata. He expressed the opinion that a fœtal remnant was the predisposing cause of so-called cysto-sarcomata. which remnant later disappears or cannot be traced. Later the discovery of Luschka in 1860 of the coccygeal gland gave rise to the theory or hypothesis that this structure, after undergoing degenerative change. is responsible for most mixed sacral growths. Two years later both Braune and Virchow gave credence to this theory.

In Max Borst's article on "Congenital Growths of the Sacral Region" (*Centralblatt fuer Allgemeine Pathologie*, 1898), undoubtedly the most exhaustive and valuable work yet published on the subject, no mention whatever is made of cases of enterocysts. The work, however, is a classic on fœtal inclosures. degeneration of Luschka's gland, spina bifida and tertatoma.

EDITORIAL COMMENT.

THE YELLOW-FEVER EPIDEMIC.

The epidemic now decimating human life in Louisiana, causing untold damage to commerce and trade, bringing out at the same time in a vivid light, depths of human love and hatred and perversity, ordinarily concealed, differs at least in one point from the epidemics of identical character of former years. At this time and in the United States, an epidemic of yellow-fever is an anachronism; it should not occur in a country that has given to the world the etiology and prophylaxis of this disease, in a country that by applying this knowledge has efficiently exterminated it in one of its hot beds. That such an epidemic should gain a start can be excused; that it is allowed to advance to dimensions not controllable is unpardonable and will always remain a black line in our sanitary history. There is very little to be said about the epidemic as such; it runs the course of many others that have passed by. It is in a stage now that hardly will be checked by artifical means, but that as to subsidence will most likely only be influenced by the seasonal changes.

Our present knowledge about yellow-fever had existed for several years; in its application the main weight was laid on prevention. There is hardly another infectious disease in which the means of prevention are so clear and so simple and at the same time so accessible everywhere and under all circumstances. If these means are used, the existence of an epidemic is impossible. (This is an "universal negative," we know, but it is deducted from evidence as exacting and binding as mathematic deductions. The mathematic correctness of this evidence can be assailed only by contradictory evidence for the opposite, not by theory and flighty generalizations.) This was known when the first case was discovered July 21st, the so-called date of the beginning of the epidemic. If at this time the proper means had been used, no epidemic would have occurred. If this had been the first case, even with the insufficient attempts at that time, the epidemic would not have been allowed to become so rampant as it is today. The essential point lies in the fact that the case of July 21st was not the first case, but only one of perhaps a great number that remained unknown. The proof of this lies in the statement that on July 25th there were 154 known cases; up to July 31st a total of 304 cases. The July 21st case could not have caused the appearance of new cases before the 31st of that month. All of those 304 cases, therefore, were caused by an infection on or before July 21st. As the infection can only be carried by a mosquito ten days after he has ingested the blood of a yellow-fever patient in the first three days of the disease, the existence of yellow-fever cases in New Orleans on July 11th, and most likely before this date, is clear Three hundred and four cases cannot possibly be infected by the same mosquito, not even by the

total number of mosquitoes that have bitten one and the same patient. There existed, therefore, a number of yellow-fever cases before July 11th. Since it is not probable that all of these cases were freshly imported, some of them at least must have been infected by infected mosquitoes *in loco*. That means that yellow-fever was present in New Orleans a long time before the first case was found. On July 21st the disease had already taken an epidemic character.

Where lies the fault that such a disaster could be permitted to occur? Ignorance, indifference, negligence and deceit worked together. Occurring primarily among a low class of people, the disease was not recognized, although even at the end of June or the beginning of July it is unthinkable that not one of the cases existing then should have been seen by a physician and at least have aroused his suspicion. Action of the authorities would have cut short its course. It is impossible to think that no suspicions should have been aroused during the time up to July 21st; indifference and negligence allowed the most favorable chances to escape. When the authorities became aware of the danger, they did what they could, but were counteracted by the same factors until the Public Health and Marine Hospital Service took the reins into their hands. The affects of this step, at least for the city of New Orleans, will be felt in two or three weeks; in fact, practically in New Orleans the epidemic now is under control.

The epidemic teaches an important lesson, not only in dealing with yellow-fever, but also for other epidemic infectious diseases. As here, so in other places, only the hand of an authority, that enforces rules for the *salus publica* irrespective of the individual and can enforce them, will be effective. Individualization, regard of so-called individual rights, will unavoidably lead to failure in such conditions. The public must be taught that a command by this authority allows of no contradiction, that they will be forced, even by infringement upon their ideas of liberty and independence, to obey. Practically, it is to be hoped that the southern disaster will lead to a change of the authoritative character of the hygienic and sanitary institutions of our country, a character that is realized only in a few states and cities to a certain degree. The first demand is that they be freed from political influences. The second is, that by their influence the public is prepared and instructed to act as they must know is necessary in conditions like the one discussed here.

The medical profession, too, can contribute a great share to the success of this attempt by assisting the authorities by careful observation and diagnosis. There is no doubt but that in this epidemic clear cases have been diagnosed wrong, intentionally or unintentionally. A skeptic attitude about the modern teachings on yellow-fever should also be avoided. Everybody is aware that our knowledge is and always will be limited by the capacity of our perceptive organs: everything we find and explore must necessarily have a human face. When we use words like

positive and absolute, we always know that their meaning only goes as far as our external or internal experience reaches. We are aware that it is possible that any axiom of today may change its face tomorrow. What we call positive or impossible are things that to our experience always show the same condition; we call them so unless someone clearly demonstrates that another explanation is more fitting. Science has nothing absolute, nothing true; it is so only of human nature and creation. We fare well with it as it is, due to the intrinsic feeling of science that everything is bound to show a different face if we find a means to look closer. This remark is made with regard to some medical literature in connection with the New Orleans epidemic, in which with high-sounding words the modern views are not discredited, but put in the light of not being sufficiently evidenced. Such views exist in the lay-public widely and a great deal of the foolish and barbarous quarantine measures is caused by it. If medical men contribute to such feelings they ought at least to show some form of evidential material. Let them go to Havana and inquire of the populace whether the mosquito theory has not been proved true. *true* in the way in which we call things true, to men in their plight. By the Cuban purification from yellow-fever our country has given a proof of its truth that, unfortunately, it has not been able to confirm in its own confines.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

Carcinoma.—KOENIG, Berlin (*Deutch. Med. Woch.*, 1905, No. 19), presents a clinical study of carcinoma, based upon his own observation, and comes to the conclusion that it is a disease which can develop wherever there is epithelium. Primary carcinoma occurs only where there is epithelium. It must be considered, for a time at least, purely a local condition. He lays some stress upon this point, because the laymen believe that carcinoma is a general affection and at once incurable. It is impossible to say just how long carcinoma may be considered a local disease, and for that reason it should be removed as promptly as possible. A large number of carcinomata, even after they have passed the local stages, are still curable, if only the surrounding glands are involved. Metastases preclude a cure. He considers cachexia the result of a breaking down of the carcinoma. There is such a thing as disposition to carcinoma. Old age may be considered a general disposition. Special dispositions are heredity, trauma, ulcers, increase of the functional action of a gland. He does not believe that carcinoma may be transmitted from person to person; never having observed, for instance, that one who nurses a case of carcinoma, has ever developed it. Though he believes that carcinoma may be transplanted, he is not aware of a case ever having occurred through inoculation. Surgeons often inoculate themselves with syphilis and tuberculosis, but he has never heard of a case in which they had infected themselves with cancer. He does not believe that carcinoma is steadily increasing, but rather that the apparent increase is due to more correct methods of keeping statistics, and to more exact methods of diagnosis.

The cause of carcinoma is still unknown, but the author feels convinced that it is a specific one. The surest treatment is radical operation, inasmuch as surgical interference cures about 30 per cent. of the cases. The Roentgen rays have produced a cure in a large number of small carcinomata, and have given relief in large, inoperable ones. If one desires to use it in preference to the immediate use of the knife, it is best to apply it in small skin carcinomata and in inoperable cases.

Tetanus: A Preliminary Report of a Statistical Study.—ANDERS and MORGAN (*Journal Am. Med. Association*, July 29, 1905).—The object of this study is to demonstrate the incidence of tetanus in this country, and to give a brief review of all collectable cases, with a view to establishing our knowledge of the disease as it occurs in this country, as well as to adduce measures of prophylaxis and treatment. The total of 1,200 cases were collected, both through a perusal of the literature and correspondence with hundreds of observers. Convincing proof is given that every case of the disease is the result of the introduction of the tetanus

bacillus, and the so-called idiopathic or rheumatic tetanus does not exist. The sections of the country in which tetanus are most frequent are northern New York, along the Hudson valley, southern Pennsylvania, Virginia, Georgia, Louisiana, Indiana, Illinois and southern California. Cases of tetanus were plentiful after the battle of Gettysburg and the battle of the Wilderness.

It was found that the greatest number of cases occur in July. About 39 per cent. of all cases occurred between the fifth and fifteenth years of life, 24.9 per cent. between the fifteenth and twenty-fifth years, 14 per cent. between the twenty-fifth and thirtieth years, and a very small percentage beyond fifty years. About 79 per cent. of all cases reported occurred in males.

Nicolaier's bacillus was the causal factor in every case. The germ occurs in garden earth, dust, manure, the intestines, and discharges of animals. The usual portal of entrance is by open wounds. All tissues are susceptible to the infection, though the extremities are the common sites of the infection. There is much evidence to show that tetanus is directly transmissible, and may give rise to epidemics.

A number of interesting clinical features have been noted; for instance, trismus has been so great as to crush the teeth down to their roots; fractures of the spinal processes of the vertebræ have resulted from the severe convulsions, etc.; 22 per cent. showed an incubation period of five days or less, with a mortality of 59 per cent.; about 45 per cent. in from five to ten days, with a mortality of 63 per cent.; about 20 per cent. gave an incubation of ten to fifteen days, with a death rate of 42 per cent.; and about 10 per cent. in from fifteen to twenty-five days, with a mortality of 40 per cent. The highest mortality occurred on the seventh day.

The measures employed in the treatment of tetanus have been many and varied, and may be considered under local and general measures. Under local measures, may be considered the treatment of the wound; under general measures, the various palliative treatments and the use of antitoxin. As a means of prophylaxis, the serum has been fully tested, both in America and abroad, and there is uniform agreement that "antitoxin does protect" in every case. The present status of the serum question leaves no doubt that, when given during a well-developed case of tetanus, antitoxin does not have any appreciable beneficial effect, neither the mortality being reduced, nor recovery hastened thereby.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

Some Remarks on Cases Involving Operative Loss of Continuity of the Common Bile Duct.—WILLIAM J. MAYO (*Annals of Surgery*, July, 1905). —In the Rochester experience of 1,100 operations for gall-stone disease and other associated maladies, there have been seven cases of com-

plete loss of continunity of the common duct. These seven are reported in detail and the reader is referred for the minutia to the original article. Several deductions which Dr. Mayo has drawn will be of undoubted value in guiding the less experienced surgeon in the management of a similar condition, which must be regarded as a comparative rarity in the practice of anyone else. The common duct may be directly united end to end by through-and-through catgut sutures, though supporting sutures should be used in surrounding tissues, and one side of the duct should be left open for drainage. The hepatic or common duct can be anastomosed directly into a portion of intestine covered by peritoneum. If the duodenum is used it should be drawn to the right and fixed by tension sutures. Drainage should never be used directly against the line of sutures, and should be covered by rubber tissue at all events. The seventh of this series of cases which had not been heretofore reported is one of particular interest. The gall-bladder had been removed at the primary operation and the common duct opened for the removal of stones. Later the common duct shrunk to such an extent that spontaneous discharge of bile took place through the old wound. The secondary operation consisted in finding the proximal end of the hepatic duct and anastomosing it into the duodenum with two rows of sutures. This healed perfectly and there was no leak and the patient was soon discharged from the hospital completely cured. This case certainly goes to show that almost anything can be accomplished with these minute and delicate structures in the hands of experienced and ingenious men.

The Consideration of Wounds of the Thoracic Duct.—VAUTRIN (*Revue de Chir. de Paris*, July, 1905).—Four observations of this kind have convinced the author that the lesion is usually by no means a dangerous one. One of the reasons why it is very frequently injured, in fact more frequently than generally supposed, is that its position is not always constant and is not capable of the same protection given the blood vessels and nerves. The various authors have failed to describe anything like a uniform picture as far as the anatomy of the part is concerned, and, indeed, it does not, as many suppose, empty from a single trunk into a vein, but is multiple and the different branches may empty into almost any of the deep veins of the neck. There are a great many communications in the chest between the thoracic duct and the veins, hence it comes about that an obstruction in the neck frequently does not lead to serious consequences as one might at first think. Of course the various pathological lesions in the cervical glands are likely to lead to changes in the walls of adjacent lymph channels, consequently when we pull upon a structure situated low down there is great danger of tearing the ducts. After such an injury there is sometimes the loss of several quarts of fluid a day, this being particularly accentuated after meals as one might suppose. Such a patient rapidly becomes emaciated and loses strength, is fearfully hungry, exceedingly thirsty and passes less than the normal quantity of urine. The treatment consists in compression in most instances, by ligature if the injured vessel can be isolated, or by lateral suture as practiced by Harvey Cushing. End to end suture is hardly within the range of possibility.

A New Position for the Patient During Appendicitis Operations.—FOERSTERLING (*Zent. f. Chir.*, No. 20, 1905).—Professor Schlange has suggested that the patient be placed not upon the back, as usually done, but turned half way upon the side. This practice has been repeatedly followed in his clinic, and it has been found that the viscera sink away from the wound to such an extent that the operator is not troubled by the tendency to prolapse. The pressure thus produced is not sufficient to break up adhesions, although it is of considerable help. The operation in the interval is rendered easier in this way, and indeed the author has found it an improvement even when the appendix is fastened down in the pelvis. We have offered us hereby the advantages, at least in part, of the Trendelenburg position without its accompanying dangers.

Scopolamin-Morphin as an Adjuvant in the Administration of General Anesthetics.—SEELIG (*Annals of Surgery*, August, 1905).—This combination has been tried in sixty-five cases and has proved particularly pleasing without showing a single ill effect. The author gives very definite reasons for using each of the drugs mentioned, these being scopolamin and morphin preliminary to inhalation of ether. Of the sixty-five cases only one vomited or retched while on the operating table, 67 per cent. did not vomit at all, and of those that did vomit one-third did so only once. Only in two cases was nausea at all pronounced. An astonishingly small amount of ether is required for an operation of ordinary duration when these preliminary injections have been made. The morphin lessens the susceptibility to shock, the scopolamin aids in this by raising the blood pressure and the combination, where a few whiffs of ethyl chloride are inhaled in addition, renders the patient most easily and quickly susceptible to the action of the ether.

Cyst of the Transverse Mesocolon Simulating Pancreatic Cyst.—HARTMANN (*Bullet. et Mem. de la Soc. de Chir. de Paris.* Tome XXXI, No. 23).—The patient, a woman of thirty-six years of age, had complained of abdominal trouble for about a year. This consisted of sudden attacks of pain in the epigastrium with vomiting, the pain radiating toward the left shoulder. She had had a little fever and diarrhea. Physical examination showed a round tumor in the upper right abdomen. This could not be distinguished from the liver and was slightly sensitive to pressure. With the abdomen open the omentum was seen to cover the mass, which lay to the right of the stomach and duodenum and above the colon. It was punctured, the fluid removed and the cyst wall sewn to the edges of the abdominal incision. Microscopic examination of the tumor showed its walls consisted of tissue similar to the walls of the lymph channels, hence the author is convinced it was simply a lymph retention cyst. There were no post-operative troubles and the patient was dismissed a few weeks afterward without a fistula.

Post-Operative Prolapse of the Abdominal Viscera.—MADELUNG (*Archiv. f. Klin. Chirurg.*, Band 77, Heft 2).—The author has collected 144 cases from literature and has added to these seven from his own practice. The very interesting fact is shown that an abdominal wound has burst

open at almost any time up to and including seventeen days after laparotomy. This has happened to both sexes, to patients of every age and after all sorts of abdominal conditions, and even after explorative incisions where nothing was found. It is reported as far back as 1844 and occurs at the present time with all our boasted excellence of technique. As one might suppose, low incisions have been most productive of this kind of trouble, and median rather than lateral incisions have conduced to it. A patient, who has been several times operated upon in the same place, is most likely to have it occur, and the critical time is shown by statistics to be about the eighth or ninth day. One might at first think that absorbable suture material had been responsible for this. This is, however, not the case, since it has occurred after the use of every kind of suture material and after every form of closure; indeed, no kind of wound reunion seems to give an absolute guaranty against it. It occurred in thirty-nine of the cases within twenty-four hours after the removal of the stitches, so it is fair to suppose these had been taken out too early. Especially the thin abdominal wall predisposes to this accident, while coughing seems to have been the particular factor which immediately brought it about. Vomiting, too, and pressing at stool have done their share. A generally depleted patient is, of course, more than any other exposed to this sort of trouble, although it has happened when there was no visible evidence of interference with healing, although in many instances suppuration has produced the accident. In a number of cases it was impossible to restore the abdominal contents, and in several cases this was not even attempted, though strange to say many of these patients have not died. One is astonished to learn that the abdominal contents have in many instances gradually shrunken back into the cavity after being enveloped in gauze for quite a number of days, and that the patients have fully recovered; and indeed such wounds in the abdominal wall have healed so firmly that not even a hernia has been apparent later. Not one-third of all the patients in whom prolapse has occurred have died, hence the accident is not quite so serious as commonly supposed.

Surgical Physiology.—CRILE (*Bulletin of Johns Hopkins Hospital*, August, 1905).—This is one of the most interesting and ingenious articles that has appeared in recent surgical literature. It is so replete with general information that a review must necessarily be of far less value than a perusal of the article in the original. Crile takes up the manifestations of inhibition and obstruction to respiration in a way that is valuable to the operator. He is especially happy in his suggestions regarding the anesthetization of abdominal cases and of cranial cases with heightened blood pressure. The well known nerve blocking is given due attention, as is the matter of respecting the physiologic resistance to the amount of surgery to be done. Blood pressure in the various forms of infections is most interestingly dealt with, as is the surgical physiology of the heart and lungs. The author has succeeded in causing the heart to beat again after it has been stilled from six to twenty-four minutes, something which was formerly thought absolutely impossible. He has kept up the heart beats for eleven hours in an animal whose medulla had been removed. He concludes his article with a most unique series of suggestions for other workers in this interesting and valuable field.

DIAGNOSIS.

IN CHARGE OF

A. E. TAUSSIG, M. D.

A Simple Method of Staining the Spirochaete Pallida for the Diagnosis of Syphilis.—M. OPPENHEIM and O. SACHS (*Deutsch. med. Wochenschr.*, 1905, No. 29).—Some months ago Schaudinn demonstrated the presence in all primary and secondary syphilitic lesions of a new micro-organism. The latter is a so-called spirochaete, a long thread-like structure with several cork-screw convolutions, very slender and staining very palely. While there is good reason to think of the possibility of this micro-organism being the infectious agent in syphilis, all positive proof is still lacking. Nevertheless, its invariable presence in early syphilitic lesions, and the fact that as yet it has not been found elsewhere, have lead to the attempt to utilize its detection for diagnostic purposes. Hitherto the methods of staining the spirochaete have been complicated and required special training. Oppenheim and Sachs, however, use an extremely simple method, which they say has proven entirely satisfactory and reliable. The scraping or the discharge from syphilitic lesions is spread in a very thin layer over clean cover-glasses, without fixation, these are covered with a carbol-gentian-violet solution (100 parts 5 per cent. carbolic acid, ten parts saturated alcoholic solution of gentian violet) and warmed over a Bunsen flame until steam is formed. They are then very carefully rinsed in distilled water, whereby the red blood corpuscles are partly decolorized, partly washed off; then dried between filter paper and mounted. The spirochaete pallida stains a delicate but distinct blue and can be recognized without trouble,

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Quantitative Uric Acid Determination.—SURVEYOR (*Brit. Med. J'l*, No. 2323).—The urine is freed from pus or albumen, if present, by boiling. It is then made faintly alkaline, boiled, acidified by means of hydrochloric acid, poured into graduated centrifuge tubes and frozen solid by means of immersion in a freezing mixture. The tubes are then centrifugated until the urine has become entirely fluid again. The uric acid will be found as an opaque mass at the bottom of the centrifuge tube and its quantity can easily be estimated.

While simple and convenient for clinical purposes, there is reason to fear that the same uncertainties inhere in this modification as in the other hydrochloric acid methods of determining the percentage of uric acid in urine.

The Diazo Reaction in Diseases of Children.—N. KEPHALLINOS (*Wiener med. Wochenschr.*, 1905, No. 23).—In the children's clinic at Graz, the author has tested for the diazo reaction in the urine of 6,000 cases. His most interesting observation was that cases of lymphatic tuberculosis, showing the clinical picture of pseudo-leucemia, always give a positive diazo reaction. The reaction was always negative in rhachitis, anemia,

true pseudo-leucemia, hemophilia, nervous disorders, erysipelas, pertussis, malaria, rubeola, mumps, acute articular rheumatism, sepsis, influenza and dysentery.

Early Bacterioscopic Diagnosis of Pulmonary Tuberculosis.—BLUME (*Hospitalstid*, No. 25; *Deutsch. med. Wochenschr.*, No. 30, 1905).—In several cases of pulmonary tuberculosis, with slight or absent physical signs, and in which both cough and sputum were lacking, the author was able to demonstrate the presence of tubercle bacilli in fragments of mucus obtained by swabbing out the apparently healthy larynx.

Significance of Leucocytosis in Cancer of the Liver.—TONARELLI (*Riform. med.*, No. 27, 1905; *ibidem*).—The blood of patients suffering from hepatic cancer is characterized by a leucocytosis, an increased proportion of the mononuclear cells, a diminished number of red corpuscles and a lessened percentage of hemoglobin. The presence or absence of none of these changes is alone definitely decisive for the diagnosis of hepatic carcimoma. Where, however, we have some hepatic disease, and have at once a marked leucocytosis, an increased proportion of mononuclear cells, great oligocythemia and oligochromemia, the diagnosis of cancer of the liver is fairly certain.

THERAPEUTICS.

IN CHARGE OF

WALTER BAUMGARTEN, M. D.

Antithyreoidin-Moebius in a Case of Basedow's Disease Complicated with a Psychosis.—LOMER (*Munch. med. Wchschr.*, 1905, No. 18).—The thyroid serum of Moebius (antithyreoidin) is the blood serum of sheep obtained six weeks after thyroid extirpation. This was prepared for the author by Merck and preserved with 0.5 per cent. carbolic acid. The case reported was one in which a dementia had existed for some time, and in which Basedow's disease developed, with a moderate goitre, marked exophthalmus and Graefe's sign, tremor, and tachycardia of marked degree.

Treatment was begun with 0.5 c. c. antithyreoidin three times daily, and this quantity was increased 0.5 c. c. daily until 4 c. c. were taken three times a day. This dose was continued for three days and then reduced to 3.5 c. c. The effect of treatment was soon apparent in an increase of the strength of the pulse, a reduction in rate, diminution, though not a total disappearance, of the tremor and exophthalmus, disappearance of Graefe's sign. The mental condition of the patient improved greatly. The goitre was not reduced in size. All symptoms and signs returned when the serum was discontinued, but Lomer, nevertheless, considers the remedy a useful symptomatic measure.

Pneumococcus Serum (Roemer) in Croupous Pneumonia. — KNAUTH (*Deutsch. med. Wchschr.*, 1905, No. 12). — The pneumococcus serum (Roemer), made by Merck, is a polyvalent serum, and is obtained from several species of animals which have been immunized against a number of strains of pneumococcus. Knauth was encouraged to try this serum by the strikingly favorable results obtained in the Wuerzburger eye-clinic in pneumococcus infections of the cornea. Seven cases of croupous pneumonia, of marked severity, were treated. The serum was injected subcutaneously in doses of 20 c. c. at intervals of from six to twenty-four hours, and on the second to as late as the seventh day. All cases recovered. The serum produced no untoward local or systemic effects of any kind. Prompt improvement was noted in the pulse, respiration, fever, character of the sputum, and especially in the subjective condition of the patients. The fever disappeared only once by crisis, usual by lysis, with little sweating and no symptoms of collapse.

The Cure of Leprosy.—DYER (*Med. News*, 1905, July 29, p. 199) has experimented extensively with various remedies, but has obtained results only from the following: Strychnine, antivenomous serum, chaulmoogra oil and chlorate of potash. He reports ten cases which have remained free of symptoms and signs from one to seven years. He is firmly of the conviction that leprosy is curable, certainly in all the early stages. He formulates the following essentials in the treatment:

"1. Full diet, restricting only indigestible foods, is indicated. The disease seems in no wise to be affected by fish or any other particular article of diet.

2. Baths are essential in the treatment. Hot baths twice a day, with or without soda, are effective.

3. The patient needs tonics, febrifuges, and should be watched for intercurrent or complicating diseases. . .

4. Strychnine is a *sine qua non* in the treatment of leprosy. . .

5. When chaulmoogra oil is given, it is better endured before meals than after. It is best taken in capsules, in hot milk, or in milk of magnesia. The dosage should be begun small, say 3 drops, and increased every second or third day until as much as 120 to 150 drops of the oil are taken at a dose. At times it is advisable to give the oil in pill form. This can be done either combining it with extract nux vomica and ordinary excipients, or a very effective way is with tragacanth and common soap.

6. Above all things, individualize the patient. Watch for improvement, and if it does not show in three months, wait six months . . . or longer. . .

7. When all evidences of the disease are gone, insist on a continuance of treatment. . . ."

Intravenous Injection of Ergot.—SOLLMANN and BROWN (*J. Am. Med. Assoc.*, 1905, July 22, p. 229), have made an extensive experimental study of the effect of ergot on the general circulation, which has led to results, as far as experimental evidence goes, that contradicts time-honored clinical observations. Using dogs, and injecting from 0.02 gm. to 0.04 gm. per kilo of dog (the equivalent of a normal therapeutic ergot dose

in man), they reach the following conclusions: "The typical effect of the intravenous injection of ergot consists in a large and abrupt fall of blood pressure, followed by a prompt recovery, and generally by a slight and short rise." This change in blood pressure is due only in the slightest degree to vasomotor influence, but mainly to changes in the force of the heart-beat. The rate of the heart is little changed. "There was no evidence of strong constriction or of a high rise of blood pressure. . . The action of ergot is independent of the dose within wide limits. . . Large doses depress the vagus centre and the vasomotor endings. It is not acutely fatal, even in very large doses."

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

About Connections, Transitions and Transformations Between Epithelium, Endothelium and Connective Tissues in Embryos, Lower Mammals and Tumors.—C. KROMPECHER.—(*Ziegl. Beitr. z. Pathol. Anat.*, Vol. 37, Heft 1).—In his former work on the basal-cell carcinoma of the epidermis Krompecher had noticed curious and close connections between the proliferating carcinoma cells and the surrounding connective tissue. Analogous observations on *melanomata*, certain tumors of the ovary, mamma and prostate and especially on mixed tumors or so-called endotheliomata of the *parotis* led him to bring these tumors also under the head of basal-cell carcinomata. He has then widened his investigations and now presents his results with the following *conclusions:* He ascribes to the basal-cell carcinoma an intermediate position between those carcinomata consisting of well differentiated cells, and the sarcomata. They are, in regard to their origin from the epithelium, of epithelial character, but their other characters remind very strongly of sarcomata. Krompecher insists that in naevi as well as in the basal-cell tumors, is found a separation and isolation of embryonic cells that under these conditions cannot be differentiated from certain connective tissue cells. In addition to this, he alleges, on the basis of embryologic and comparative histologic material, that there exists an intimate connection between normally placed epithelial cells with the underlying connective tissue, and maintains that in man, the basal-cells emit definite processes into the connective tissue. Having thus established his "transition-tissue," he proceeds to pronounce a thesis like this: It is possible that a transformation of epithelial cells into connective tissue cells occurs in the adult organism under normal or pathological conditions. He tries to confirm this thesis by referring to the analogous relations of epithelium to endothelium and the (as yet not proven) changeability of peritoneal and vascular epithelium into connective tissue.

Krompecher's paper is radical in its conclusions and will arouse a long and spirited discussion about the question, whether ideas, now believed fundamental in anatomy and histology, must be abandoned. There is no doubt that several investigations lately published, have on many sides, even before Krompecher, shaken, to a degree, the belief in the specificity of the different tissue formations in the animal organisms.

About the Paget Carcinoma (Paget's Disease).—Hugo Ribbert.—(*Deutsch. Medic. Woch.*, 1905. No. 31).—One of the strongholds of the theory that cancer cells are direct derivatives of normal epithelia, or that normal epithelia can be transformed into carcinomatous epithelia, has for a long time been the well-known condition, called Paget's disease. In this condition are found cells between the epithelial cells, distinctly different in character from the latter and assumed to be the initial stages leading to the final establishment of a carcinoma. They were considered as the primary changes of the normal cells. *Jacobaeus* (*Virch. Arch.* 178), however, first recognized the incorrectness of this view and found that they were secondary to the growth of a carcinoma under the skin. Ribbert, in three very instructive and typical cases of the disease has conclusively shown that this conception is true; he has followed the growth of a columnar celled carcinoma toward the epidermis, has demonstrated the migration of its cells between the cells of the latter, thus giving the picture formerly described as their transformation. Ribbert's work is the more demonstrative, as two of his carcinomata had columnar cells, that alone exclude an origin from the squamous epithelium of the epidermis. Paget's disease, therefore, is not a peculiar chronic carcinomatous change of the surface epithelium, but a slow destruction and elimination of this epithelium by tumors that lie below it and grow towards it.

On the Presence of Certain bodies in the Skin and Blister Fluid from Scarlet Fever and Measles.—Cyrus W. Field.—(*The Jour. of Experim. Med.* Vol. vii., No. 4).—Field's careful observations have shown him that the bodies found in skin sections from cases of measles and scarlatina are part of the protoplasm of the epithelial cells; the small round extracellular bodies may arise in the same way. If these bodies of *Mallory* were protozoa, they would have been found in the sections both from the living and the dead skin, as they were present in blister-fluid, as Duval first has shown. Their absence in the living skin is suggestive more of a degeneration than of a protozoon. They were not found immediately after death in one case, while they were found in skin removed from the same case twenty-four hours later. It seems likewise probable that the bodies found in the blister-fluid are products of degeneration also, as they are found in antitoxin rashes as well as in measles and scarlatina. It can certainly not be stated that none of these bodies is a protozoon, but it can be positively stated that a great majority of them arise from degenerating cells. It is not possible in many cases to differentiate, by staining, a degenerative product from a protozoon.

About the Pathogenesis of Pulmonary Tuberculosis.—F. Weleminsky.—(*Berl. Klin. Woch.*, 1905, No. 24, 31, 32).—Weleminsky opposes in

this work conceptions about the progress of a tuberculous process, that for a long time have been considered as proved by innumerable clinical and pathological observations. It is impossible here to enter into the details of his researches; they certainly call for control researches, in order to demonstrate whether the older ideas have to be abandoned. Welemiusky's conclusions may be shortly quoted.

Tuberculous tissues do not infect their regional lymphatic glands. Wherever tuberculous lymph glands are found, we have to deal with a primary infection of the lymphatic system. In almost every human and bovine tuberculosis lymph glands are affected. Therefore, it is to be concluded that almost every spontaneous tuberculosis in man and animal is primarily a disease of the lymphatic system, that advances only secondarily to other tissues. At a certain stage of the disease a distuning (*umstimmung*) of the organism takes place, in the guinea pig after subcutaneous inoculation in four to six weeks, in the rabbit intravenously injected, much earlier; the process advances by continuity or by blood dissemination (chronic miliary tuberculosis); a genuine immunity is not established. But the lymphatic system at the time cannot be infected any more, even if involved directly. At what time this stage is reached in man and how long it persists, if recovery is achieved, cannot be said with certainty. That it makes its appearance is, for instance, shown in the tuberculosis of the ureteral and vesical mucosa, where no simultaneous glandular involvement is found. Since the spontaneous infection in man is almost always lymphogenous, it must be concluded that a human individual can be infected with tuberculosis (just like in the case of syphilis) only once in his lifetime, certainly a reinfection can only occur after an interval lasting a long time.

The experiments on which Welemisky bases his conclusions are very numerous; whether their interpretation in every case will be accepted is questionable. The work, however, will give a strong impetus to further study; the final results will have a weighty bearing on the decision to be reached on many discussed points brought forward by Behring's publications.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

Operative Treatment of Puerperal Pyemia.—BUMM (*Berlin. klin. Wochensch.*, No. 27, 1905. Dedicated to Professor Olshausen at the occasion of his seventieth anniversary).—In cases of acute and chronic puerperal pyemia the bacteria travel from the endometrium through the uterine wall into the surrounding venous plexus. This pathologic-anatomic observation prompted Bumm to try to intercept the infection on its way into the vena cava. His operation consists in a laparotomy, at which the diseased veins are ligated and extirpated. The operation has been performed by the writer in five very serious cases, with high tempera-

ture and severe chills, three of the patients recovered. The author describes in detail the symptoms and diagnosis of those cases which seem most suitable for this operation, that is destined to take the place of the more radical and dangerous extirpation of the septic uterus.

Uterine Rupture in the Old Scar of a Cæsarian Section.—WERTH (*Ibidem*).—Reports of such ruptures appear with increasing frequency in modern literature. The author adds one more case to the eleven which so far have been recorded. He describes the mechanism, symptomatology and therapy of this unfortunate complication and makes in his conclusions the discouraging statement that the strength of the uterine scar after a Cæsarian section does not seem to be dependent upon the suture material, upon the method of closure or the location of the incision.

Myoma and Menopause.—WINTER (*Ibidem*).—In patients suffering from myomata of the uterus the menopause, as is well known, is delayed. It seems unjustifiable to advocate conservatism, relying upon the possible beneficial influence of the menopause, if the patient is not older than fifty years, because according to recent statistics only in a patient of fifty-five years cessation of menstruation can be expected within a reasonably short time. In the experience of the writer in about 17 per cent. of all cases serious symptoms, which necessitate operation, make their appearance after the period of life which in healthy women marks the beginning of the climacterium. It is, however, true that in the majority of cases the myomata participate in the general senile involution of the uterus.

Albuminuria and Artificial Interruption of Pregnancy.—VEIT (*Ibidem*).—This is a most interesting and valuable paper. The writer endeavors to outline the essential points of difference between the so-called "kidney of pregnancy" and true nephritis, a matter of great importance from the standpoint of therapy and prognosis. Unfortunately the symptoms do not always permit a positive differentiation. Albuminuria alone never forms a justifiable cause for artificial termination of pregnancy. Artificial abortion is indicated only if in the course of an albuminuria the symptoms of a true nephritis appear, such as ascites, general hydrops, hypertrophy of the left ventricle, especially symptoms of a retinitis. In patients who have a nephritis at the time of impregnation the writer interrupts pregnancy, if the general condition of the patient becomes gradually worse, if dyspnœa or irregularities of the pulse become manifest.

Menstrual Fever of Tuberculous Patients.—SABOURIN (*Revue de Medecine*, Mars., 1905; rev. *Muenchn. Med. Woch.*, No. 29, 1905).—The writer records an observation which is not only of considerable scientific interest, but may prove of great practical value. In his opinion tubercular women almost without exception show a rise of temperature at the time of menstruation. The physician should never forget this fact if he wishes to protect himself against undesirable errors. The author be-

lieves that a careful observation of the temperature in connection with menstruation may in doubtful cases help to establish the diagnosis. This menstrual fever is of a benign nature, and as a rule does not markedly influence either the general condition of the patient or the progress of the tubercular disease. Those patients who have had attacks of hemoptoe during menstruation should during this time be kept in bed. Usually, however, the hemoptoe precedes menstruation and stops with the appearance of the flow.

The Fate of Emboli Formed by Placental Tissue.—SCHMORL (*Verhandl. d. Deutsch. Path. Ges.;* rev. *Zentralbl. f. Gyn.*, No. 24, 1905).—In examining the lungs of 158 patients who died during labor or the puerperium, the writer found only twice extensive embolisms of pulmonary tissue produced by deported Langhans' cells and syncytial masses with distinct signs of proliferation. The foreign tissue was found lying close to the wall of the vessel, the intima had disappeared and often the muscular coat contained some of the placental tissue. The microscopic appearance of these emboli closely resembles the early stages of a metastasis of a typical malignant chorio-epithelioma. In both of these cases abortion had occurred very early in pregnancy, in one at the end of the first, in the other at the beginning of the second month of gestation. Since the writer has seen such an extensive deportation of cells of the chorion only in four cases of hydatiform mole, three of which had resulted in abortion within the first month of pregnancy, he feels justified in assuming that possibly also in these two cases the chorionic villi may have been degenerated. He, therefore, concludes from his studies that only emboli originating from the chorionic villi of a hydatide mole have the faculty of a progressive development.

The writer in this paper contradicts the views of Veit, and claims that the deportation of complete villi into distant organs, or even the simple detachment of chorionic villi as described by Poten, is not a physiological but a distinctly pathological process, occurring only in cases in which the placenta is damaged by mechanical causes, such as manual removal of the placenta, placenta previa or uterine rupture.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

Etiology and Classification of the Summer Diarrheas in Infancy.—DUNN (*Arch. of Ped.*, June, 1905), reviews the literature and summarizes the results of his study of 620 cases as follows:

The diarrheal diseases of infancy, occurring in the summer months differ in no way, clinically or anatomically, from the diarrheal diseases occurring in the cooler months, except in their much greater frequency.

Classification on an anatomical basis is not convenient owing to the variety of lesions found in cases of similar etiology and clinical course,

and the lack of correspondence between the anatomical and clinical picture.

The following clinical classification is suggested:

(*a*) Acute nervous diarrhea, characterized by loose stools of normal color and odor without abnormal constituents.

(*b*) Irritative diarrhea, acute intestinal indigestion of the irritative type, characterized by the absence of persistent fever, and by the presence of curds and undigested masses in the discharges.

(*c*) Fermental diarrhea, acute intestinal indigestion of the fermental type, characterized by the absence of fever, and by green stools of a foul or sour odor.

(*d*) Infectious diarrhea, characterized by the existence and persistence of fever, and by the tendency toward early signs of ileo-colitis, as shown by the presence of blood and excess of mucus in the discharges. When a specific organism, the bacillus dysenteriæ, is proved to be the cause, the cases may be termed infantile dysentery.

(*e*) Rare cases occur, corresponding to the known description of heat exhaustion and cholera infantum.

Of the above differentiated types, the indigestion forms, including the irritative and fermental cases, are by far the most common.

The chief cause of all the above types is the increased heat of the summer months, producing functional disturbance either of the nervous system or of digestion in the non-infectious cases, and producing conditions more favorable to infection in the infectious cases.

Bacteria are the secondary cause of a number of cases, largely if not wholly belonging to the type classified, clinically, as infectious. Infection occurs by the introduction of bacteria from without, or by auto-infection with bacteria already in the intestine. The latter is probably the usual method.

The bacillus dysenteriæ is a cause of most of the infectious cases; whether it is the sole cause remains to be determined. This bacillus can often be found in the intestine in cases where it probably has no causal relation with the pathologic process. Such cases are usually, clinically of the non-infectious type. Other organisms are probably a cause of some of the infectious cases.

The anatomical changes of various kinds included under the term ileo-colitis, may occur in any of the above clinical types, except the acute nervous.

Anatomical changes of some kind probably occur in all infectious cases.

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Digestive Auto-Intoxication.—THOMAS (*Rev. Mens. de Mal. de l'Enf.*, July, 1905), devotes the first paper on this subject of great interest, to a discussion of its etiology and pathogenesis.

From his studies of the subject and from a review of the literature, he concludes that at the present time it is not possible to define, precisely, the characteristic symptoms of this condition. The different systems of the body may be of etiologic importance, either singly or in combination. Thus an auto-intoxication may be produced in the course of functional or organic disturbances of the gastro-intestinal tract, in certain disturbances of the general nutrition, or in diseased conditions of the nervous system. The relative importance of these causative factors

varies, but it appears settled that in a great number of these cases, the most important cause is some alteration in the functions of the nervous system. Unquestionably, modifications of the digestive ferments, and the consequences thereby ensuing, play an important role in the pathogenesis of the condition.

The chemical substances, ptomaines or others, produced in the course of intestinal auto-intoxication, are as yet imperfectly known. However, the importance of this factor doubtless stands in direct relation to the amount and degree of absorption taking place. And again, this varies greatly in different cases and individuals.

The presence in the urine of certain aromatic bodies (ethereal sulphates) in increased quantity, cannot be considered an absolutely pathognomonic sign of the existence of an auto-intoxication. Nevertheless, their presence in the urine may be taken as an important confirmatory diagnostic sign.

Intestinal auto-intoxication thus represents a complex syndrome of various phenomena, developing from a variety of causes. It is certain that in the pathogenesis we must consider the state of all of the organs of the digestive tract, not limiting ourselves to the condition of the intestines. It is not probable that the stomach *per se* is an important factor, though it is true that insufficient elaboration of the food stuffs in this viscus would have an affect upon the rest of the digestive apparatus.

The liver is, however, a factor of the greatest importance. Insufficiency of the hepatic function, either congenital or acquired, will be found to exist in the majority of these cases.

When the multiplicity and complexity of this function are considered, this is easily understood.

The small intestine also plays a role of importance. The study of the intestinal ferments is just beginning, and their importance to the body economy is being more and more clearly recognized. Particular weight is to be attached to the persistence of the normal integrity of the intestinal mucosa. If this be broken from any cause, the intestinal secretions are apt to be abnormal, both quantitatively and qualitatively. As a consequence, the modification which the food stuffs should undergo in the intestine will be incomplete, and, in turn, the noxious action of the bacterial content of the large bowel will be greatly enhanced.

Therefore it is that Senator could say: "Intoxication cannot take place unless the toxic products exist in very large quantity, or the mucosa is abnormal, or the other organs of defense are below par."

It would, therefore, appear that the role of the large intestine in the production of this condition had been somewhat exaggerated. In the colon, resorption is the principal factor, and here again, the condition of the mucosa is all important. Leaving out of consideration the cases where there is a gross pathological lesion, and where intoxication is, therefore, purely secondary, we find that in cases of primary intoxication it is the nervous system, which, by controlling the condition of the mucosa, actually determines the possibility of attack in cases where the necessary antecedent conditions, as outlined above, are found.

Considerations of therapy are reserved for future communication.

White Stools of Nurslings.—JUILLET (*These de Paris*, 1905, *Rev. Mens. de Mal. de l'Enf*) says that in the course of chronic gastro-enteritis in

nurslings, it often happens that the stools are white, pasty, sticky and horribly fetid. Their reaction is usually acid. Bacteriological examination has not thrown any light on the subject. On chemical analysis, two principal characteristics are noted: (1) Complete acholia. (2) The presence of a very considerable quantity of fats, running as high as 76 per cent. of the solid matter, and speaking for a functional disturbance of the liver. With reference to etiology, various factors are noted: Premature infants, syphilis and tuberculosis. But the most important causal factor, according to the author, is always *superalimentation*. These white stools are, as a rule, not found in the early stages of a gastro-enteritis; it requires a prolonged intoxication to produce them.

The prognosis is grave, because the organism of the infant cannot stand the loss in calories ensuing from the non-assimilation of the fats. In addition, the functional disturbance of the liver always carries with it a lessened resistance to infection.

Treatment should be prophylactic rather than curative and consists, principally, in the selection of an appropriate diet for the child. With the condition existent, however, it would appear rational to avoid giving fat foods, which cannot be assimilated, and to run up the quantity of carbohydrates, which, while affording nourishment to the organism, do not throw any strain on the liver.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Transitory Paralytic Club-Foot.—ALFRED SAXL (*Zeit. f. Orth. Chir.* Band XIV, Heft 1). Club-foot due to flexor paralysis falls under one of two heads. Under the first head those in which the shape of the foot in all positions, either with or without weight bearing, is maintained. Under the second head are included the cases in which the foot is pulled into a typical club-foot shape only when weight is borne, losing its varus position when not supporting the body weight. The author speaks of these cases as transitory club-feet. The tibialis anticus is paralyzed more or less, while the extensor communis and extensor hallicis are usually paretic. The gastrocnemius and peroneal muscles are usually good. Thus, when no weight is borne the foot may be in the position of equinus with the arch increased. The reason that the club-foot attitude disappears when weight is borne is, that in sitting the foot comes into plantar flexion on account of short tendo achilles, permitting the peroneal muscles to act as pronators. When, however, the foot is placed upon the floor the tendo achilles is fully stretched and the foot is supinated. In the beginning these cases should be treated so as to prevent club-foot. Where club-foot already exists the author uses the modelling redressment of Lorenz.

A Case of Traumatic Coxavara Treated by Cervical Osteotomy.—GAUDIER, LILLE (*Revue d'Orthopedie*, March, 1905).—The operation of osteotomy performed on the neck of the femus is difficult. It is, however, not so difficult as resection of the femoral head. It may be performed either with the chisel and mallet or with the Gigli saw. Combined extension and inward rotation together with wiring of bones will give excellent results. The treatment, however, is similar to that which is suitable for ordinary cases of fracture of the neck. Where the deformity is slight, sub-trochanteric osteotomy will give good results.

Tuberculous Tarsalgia of Adults.—LEON THEVENOT (*Revue d'Orth.*, March, 1905). Tarsalgia may be the first symptom of tuberculosis of the ankle. Clinical observations and pathological anatomy show that a valgus ankle with flat foot may present symptoms which are not dependent on the mechanical condition of the foot but may be due to infectious arthritis, or may be due to tuberculosis. The author suggests that one should investigate with care the previous history and the family history in these cases, as well as to bear the above mentioned facts in mind when making a diagnosis of valgus.

The Treatment of Congenital and Acquired Luxation of the Shoulder in Childhood.—ROYAL WHITMAN, M. D., New York (*Annals of Surgery*, July, 1905).—These cases may be divided into three classes, (1) true congenital misplacement of the humerus, (2) dislocation caused directly by violence at birth, (3) acquired sub-luxation, due to injury of the brachial plexus. Cases of the first class are very uncommon and are therefore of little importance, cases of the second class are uncommon also. The dislocation in these cases is apparently caused by traction on the arm at delivery or by swinging the child by the arms in attempts at resuscitation. In the third there is no primary displacement, the luxation can be classed as congenital only in the sense that it is induced by an injury at birth, *i. e.*, the brachial plexus is injured by traction at the time of delivery. The characteristic obstetric paralysis follows, involving the biceps, the deltoid and the supinator to the forearm, the arm hanging by the side in an attitude of inward rotation and pronation. There is a very general impression that spontaneous recovery is the rule after obstetric paralysis, consequently systematic treatment for the improvement of the deformity is not usually employed; and, although the original helplessness gradually lessens, the comparative disability may become more marked with development. It was at one time generally believed that the larger portion of these cases were truly congenital, and that there were accompanying developmental defects that would prevent reposition. Phelps, therefore, advised the operation of opening the joint and cutting away sufficient of the head of the humerus to accommodate it to the contracted capsule. The author is of the opinion, however, that it is more rational to increase the capacity of the joint rather than to further diminish the size of the already atrophied head of the humerus. In other words, the treatment should be similar to that of bloodless reduction of the hip joint. When the head of the bone has been replaced, there is a distinct depression behind and the head of the humerus projects in front. It will often be noticed that

tension on the anterior tissues causes flexion of the forearm. This must be overcome by stretching. The extremity is then fixed in overcorrected attitude by means of a plaster bandage which includes the thorax. In the more extreme cases it is impracticable to complete the operation at one sitting. The essentials of successful treatment of this difficult class of cases are complete overcorrection at the time of operation; fixation for a sufficient time to assure the stability of the new articulation by accommodative changes within and without the joint, and persistent after treatment.

Operative Treatment of Bone Tuberculosis.—CHARLES F. PAINTER, M. D., Boston (*American J'l of Orthopedic Surgery*, July, 1905).—There is great need of the careful consideration of the indications for operative treatment in bone tuberculosis. There are a great many cases reported in literature, but, as a rule, they refer to interesting instance occurring in the practice of others which have served to illustrate some particular point that the writer wished to bring out. There are very few discussions of the indications for treatment based upon a combination of considerable clinical experience with the fundamental pathology of tuberculosis of the bones and joints. In children tuberculosis of the bones and joints is regarded in the same light by practically all rational surgeons, certainly as far as the operative management of the disease is concerned. The consensus of opinion seems to be that the less interference there can be the better. We have occasionally become temporarily enthusiastic, however, over attempts to extirpate tuberculous foci in childhood. As to the treatment of tuberculous abscesses, some have advocated radical treatment and others have advocated letting them alone and letting them break of themselves. Aspiration is attended with difficulties in children and is in consequence, a method relegated to adults. The author is of the belief that aspiration should be followed in many more instances in childhood, as it is certainly attended with infinitely less danger of contamination, and that it is contamination alone that renders a tuberculous abscess a menace to the individual possessing it. He is of the belief, also, that there is a very definite field for radical surgery in tuberculous disease; that this field can be exactly outlined by certain specific rules which it is not often possible to make exception to; that there would be a great deal less need of operative surgery than there now is if our cases were properly managed in the earlier stages of the disease; that tuberculosis of the bones and joints is tuberculosis and not simply joint disease; that the principles which underly the successful treatment of all tuberculosis, pulmonary or otherwise, as certainly underly the treatment of this disease of the bones and joints as they do anywhere else, and that one who attempts this kind of surgery without being in a position to follow out the treatment other than operative, had much better forego the operative measures in the majority of instances and give his patients the benefit of Nature's restorative measures.

The X-Ray as an Auxiliary Treatment in Bone Tuberculosis.—F. E. PECKHAM, M. D., Providence (*Am. J'l Orthopedic Surgery*, July, 1905).—Tuberculosis in its many forms and many different locations often presents difficulties in the way of treatment that are well nigh insurmount-

able. Surgery plays an important part in these troublesome cases, but the general nutrition and fresh air and sunshine are as necessary as in pulmonary tuberculosis. The author presents five cases of bone tuberculosis that he has treated by exposure to the x-ray. They were all suppurative and might rightly be considered desperate. One was a failure, although even here there was slight temporary improvement. Two of the others were very markedly improved, while two desperate cases were practically saved from amputation—one being a knee, the other an elbow. He is of the opinion that the x-ray may be of the very greatest assistance many times even when the tuberculous proves extremely resistant to all methods.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

Return of the Knee Reflex in Tabes Dorsalis Without the Appearance of Hemiplegia.—DONATH (*Neurologisches Centralblatt*, 12, 1905).—It is a commonly accepted fact in neurology that a knee jerk in tabes, appears again only under one condition, and that is, if there develops a hemiplegia of central origin. In that case the knee jerk may not only return, but be increased. The explanation of this lies in the fact that the knee jerk in tabes disappears, not alone from the degeneration of the fibers, in a part of the reflex arc, but also because the reflex function needs a greater amount of stimulation to arouse its activity. A further explanation of the return of the reflex lies in the assumption that the fibers themselves forming the reflex arc are capable of regeneration. The case here described is one in which the author assumes that the lesion of the reflex center was capable of regeneration, which took place coincident with the general improvement of the patient.

Varieties of Multiple Sclerosis Differing in their Development from Well-Known Types.—MULLER (*Neurologisches Centralblatt*, 13, 1905).—This is a timely paper on a subject that is at present of great neurological interest. There is a growing opinion that one of the most common of organic nervous diseases is multiple sclerosis. Muller himself believes that in the country this disease is the most frequent of the gross organic lesions of the nervous system, and that in the cities it comes next in frequency to the syphilitic and metastatic syphilitic diseases. It has further been found that the atypical and the elementary forms of this disease largely outnumber the classical varieties. In fact, it is believed that multiple sclerosis, with the typical text-book group of symptoms, is a very rare condition. The author holds that the peculiar optic appearance is the most certain and the most important diagnostic sign of this disease. That is, the atrophic discoloration of the papilla, especially the temporal pallor. In the doubtful cases the determining diagnostic features are temporal pallor of the papilla (especially in re-

lation to the characteristic features of the acuity of vision and the field of vision), the absence of the abdominal reflex, the Babinski phenomenon and a slight degree of tremor of the arm in finely intended movements.

The Differential Diagnosis Between Cerebellar Tumors and Chronic Hydrocephalus.—FINKEINBERG (*Deut. Zeit. f. Nervenheilkunde*, Vol. 29, 1, 2, 1905).—Three cases form the material of this paper. The importance of this aspect of the subject will be found largely in the question of operation. Of course, the fact that the two conditions are often found together adds to the difficulty of the problem. The author forms the following conclusions:

1. Cerebellar gait can occur in chronic hydrocephalus and in tumors of the central ganglion as an early symptom.

2. A normal condition of the tendon reflexes, and even a weakening of them, does not speak against chronic hydrocephalus.

3. The group of symptoms known as Schmidt's symptom, consisting of vomiting, dizziness, etc., in cases of cerebellar tumor in certain lateral positions assumed by the patient, as opposed to the absence of them in hydrocephalus, is of no value, as they occur likewise in cerebral tumors.

4. Circumscribed pressure and tenderness to percussion are found in hydrocephalus as well as in tumor.

5. More pronounced development of the choked disc on one side than the other does not point to the localization on that side.

Paralysis of the Abdominal Muscles in Anterior Acute Poliomylitis in Children.—IBRAHIM HERMANN (*Deut. Zeit. f. Nervenheilkunde*, Vol. 29, No. 1, 2).—Although the text-books speak of the possibility of the abdominal muscles being paralyzed in the acute anterior poliomylitis of children, very little additional evidence is found in the literature that this fact has received the attention that it deserves. The author describes four cases in which the abdominal muscles are more or less involved. In two cases the muscles on both sides were paralyzed. The reports of similar cases found in the literature are discussed and compared with ones reported here. There has as yet been no autopsy record of a case studied histologically. From the meagre material collected, including the reported cases in this article, favorable prognosis is regarded as warranted. They seem to show a well-marked tendency to improvement.

Note on a Case of Advanced Carcinoma Uteri with Some Symptoms of Bulbar Palsy and Almost Negative Microscopical Findings.—WARRINGTON (*Rev. Neurol. Psych.*, No. 8, 1905).—A brief report of a case in which the symptom complex of myasthenia developed. The autopsy findings were so slight that the symptoms were not explained by them. The explanation of the occurrence of this group of symptoms and the apparent negative post-mortem findings must, for the present, at least, depend upon the theory that there can be alteration of the nerve cells severe enough to produce functional anomalies, without the presence of anatomical changes definite enough to be shown by the ordinary methods in use at the present time.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

Prostatic Hypertrophy; Its Surgical Treatment; Conclusions Drawn from Twenty-five Cases Operated on by the Writer.—FOLLEN CABOT (*Amer. Jour. Urol.*, June, 1905).—An operation for hypertrophy of the prostate should be undertaken on the earliest evidence of urinary obstruction. The habitual use of the catheter by prostatics should be relegated to the rear. Long before such a practice has become necessary, the prostate should be enucleated. We would thus operate on patients in fairly sound condition instead of those with most of their vital organs damaged.

For those cases in too bad a condition to stand an immediate prostatectomy the bladder should be opened supra-pubically or by the perineal route for drainage, vesical lavage and general treatment. If this slight operation has not proven too much for him, a complete operation can be performed later on. If he does not survive the simple drainage, he certainly would not recover from a prostatectomy. Sounds for dilatation of the prostatic urethra do more harm than good.

A cystoscopic examination of the bladder at the time of or just before the operation, is of decided advantage, if easily executed. Some patients cannot be cystoscoped, and so no prolonged effort should be made to do so.

Where other conditions are favorable, the perineal prostatectomy is the operation of choice. Fifteen cases without a death are reported. It is noteworthy that the author does not use any kind of packing for the wound, employing only a large rubber tube, of forty or more French, placed in the bladder through the perineal wound. The author reports ten supra-pubic prostatectomies, with four deaths.

An Attempt to Adapt for Clinical Purposes, the Tests for Electric Conductivity of Urine.—(KOLISCHER and SCHMIDT, *Med. News*, August 5. 1905).—For determining the functional capacity of the separate kidneys, the various methods that have heretofore been proposed have been found wanting. Cryoscopy was received with the greatest enthusiasm as the method that should give infallible results in this direction, but controlling experiments soon proved that the reliability of this method was overrated, then this method was more elaborated by comparing the cryoscopy of urine with the cryoscopic results in blood examination. But it was shown that cryoscopic results are not only influenced by the mistakes of art that are very likely to occur; but also by conditions under which the patient lived previous to the examination, as exercise, nourishment, etc. It furthermore was shown that a healthy kidney temporarily may be disabled to a certain extent on account of toxin brought into circulation by its diseased mate. In this way a cryoscopical examination carried out in this particular period will lead to misjudging a practically normal kidney. The estimation of the elimination of urea and certain staining fluids has given unsatisfactory results.

Finally the test of the electric conductivity of the urine was introduced in order to determine the functional capacity of the kidneys. This latter method is based on the experience that a normally functionating kidney will furnish a urine of higher electric resistance than would a kidney that is diseased. This method is not reliable.

None of these methods furnish a possibility of discriminating between a permanently diseased and disabled kidney and a healthy kidney that only temporarily is impaired in its function by the influence of its diseased mate. The authors endeavor to find out whether running a stain through the kidney might not influence the functional capacity of a normal and an abnormal kidney in a different way. As a stain they selected indigo-carmine, and as a method of testing they selected the test for electric conductivity on account of its extreme sensibility.

It seems that their results may lead us to expect something in this line.

A New Model of the Catheterizing Cystoscope.—AYRES (*Amer. Jour. Urol.*, June, 1905).

Cystoscope with Direct Vision.—LUYS (*Ann. des Mal. des Org.-Urin.*, July 15, 1905.)—Ayres considers the direct view cystoscope much more useful for ureteral work than the indirect view instrument. He has constructed and illustrates an instrument which is based on the lens system that is capable of giving both a direct and an indirect view. The difficulty of leaving the ureteral catheters undisturbed upon withdrawing the cystoscope is overcome in his instrument.

Luys also mentions the advantages of the direct view cystoscope and describes his instrument, which is essentially a straight tube without a lens system. As the inconvenience of an instrument of this design is that, as the urine comes down from the ureters it gets into the tube and obstructs the view, he has placed a tube at the lower part of the cystoscope, which, through suction, constantly keeps the bladder dry. The light is placed in the upper portion of the cystoscope to better illuminate the field. With this instrument the true aspect of the vesical mucosa and the ureteral openings may be ascertained.

Clinical and Experimental Studies Concerning the Pathogenesis Epididymitis Gonorrhœica.—OPPENHEIM and LOEW (*Amer. Jour. Urol.*, July, 1905).—Their investigations lead the authors to conclude that *retroperistaltic movement of the vas deferens* is the determining factor in the causation of epididymitis. Irritations and injuries of the posterior urethra set up a retroperistaltic movement of the vas deferens, and thus infection is rapidly transmitted to the epididymis, causing inflammation of that part. Therefore, it is contraindicated to apply instruments of any kind in acute posterior urethritis. Every necessary exploration of the prostate must be made with great precaution. The patient must refrain from sexual excitement, pollutions and violent muscular exertion. The more acute the posterior urethritis, the greater the danger; for the hyperemia furthers, in consequence of the higher irritability, the occurence of the authors' reflex.

Finger's idea of suspending all local treatment of the posterior

urethra, if epididymitis exists on one side is correct, because there is danger of the other epididymis becoming affected.

In subacute and chronic posterior urethritis where gonococci are still present, one should avoid using irritating injections.

Punctured Wounds of the Bladder.—Evans and Fowler (*Ann. Surg.*, August, 1905).—Wounds of the urinary bladder are extremely uncommon, rarely being seen in private practice, and even in military practice are quite infrequent, as may be seen from the records of the Civil War. In its normal position the bladder is well protected from injury by sharp or blunt instruments, yet when rendered less resistant by inflammatory changes it may yield to the most trivial injuries, as a slight fall or blow. The presence of bloody urine, either escaping from the wound or drawn with the catheter, leaves no doubt that the bladder has been injured. Indeed, in suspected cases, the introduction of the catheter should not be neglected. Whether the peritoneum is also involved, in doubtful cases, may usually be determined only by exploratory laparotomy.

Free drainage is the key-note to extra-peritoneal wounds, while if the perineum is involved, immediate laparotomy must be done, the rent in the bladder sutured, and the peritoneum cleansed and drained.

The authors exhibit a list of published cases, and describe one of their own. In this case there was a double puncture of the bladder through the perineum, with laceration of the anterior wall of the rectum. Immediate laparotomy was performed, the bladder and peritoneal rent closed, and the abdominal cavity washed out and closed. A retention catheter for drainage was placed in the bladder through the large perineal wound. Fourteen days later the laceration of bladder, rectum and perineum was repaired, the patient making a complete recovery.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

William E. Sauer, M. D.

Conchotomie.—Rindfleisch (*Monatschrift fuer Ohrenheilkunde, Nasenkrankheiten, etc.*, April, 1905), calls attention in the above referred to article, to some conclusions arrived at by himself and Dreser, whom he quotes, as to the advantages of prescribing aspirin immediately before operation for hypertrophy of the turbinated bones. He declares, quoting Dreser, that the danger of profuse hemorrhage, so liable in patients who commonly suffer from cold hands and feet, is much lessened by a dose of aspirin given just before the operation, and that in cases where chloroform narcosis is indicated, the use of aspirin is also advantageous, as in his experience the tendency to nausea and vomiting is much lessened, and the heart's power of work is increased. He explains the lessened tendency to hemorrhage, by the fact that the circulation in the skin is benefitted by aspirin, as evidenced by the warming up of the pre-

viously cold extremities, and that thereby a collateral anemia of the mucous membranes generally, including that of the nose, is produced. He claims that aspirin, in contradistinction to salicylate of soda, does not depress but rather strengthens the heart, as above mentioned.

Radical Treatment of Acute Otitis Media.—DUBAR (*Le Progres Medical*, June, 1905).—The author gives in the above article an interesting synopsis of the treatment, both remedial and prophylactic, in otitis media. He divides his subject into otitis media in the new born, in children, and in adults. First, he calls attention to the frequent difficulty in diagnosing the trouble in very young children, who often in the course of some acute affection, or during convalescence from it, are seized with a crying fit lasting sometimes many hours, the cause of which is not discovered until a drop of pus is observed in the ear. In such cases the tympanum has burst to let out the pus, but where it does not burst, as is well known, the pus invades surrounding cavities setting up mastoiditis and meningitis. The author states that hundreds of children die every year in Paris from this form of meningitis alone. The infection comes through the Eustachian tube, the naso-pharyngeal opening of which is peculiarly wide open in the new born and filled with mucus, and suppuration occurs if a lowered vitality "state of least resistance" takes place. He advises the antiseptic cleansing of the mouth and naso-pharynx at the first signs of sickness by syringing, morning and evening, a few drops of the following mixture into each nostril: Sterilized olive oil, 60 grammes; resorcin, 2 grammes. The child should be laid flat on a table and its head held by an assistant. He advises also placing in each ear, morning and evening, a pledget of absorbent cotton soaked in the following mixture, previously warmed: Glycerine, 40 grammes; resorcin, 1 gramme; acide phenique, 0.25 centigrammes.

This practice is without danger or inconvenience and should be persisted in during the entire course of the acute stage of the disease. Second. In the case of children he advises the same technique and principles, varying the proportion of the antiseptics to suit the age of the child and the cause of the otitis. He especially warns against the use of menthol, which, according to his experience is often caustic in its effects, and many children are peculiarly sensitive to it. He replaces menthol by "essence of thyme" in the proportion of 1 to 100. Third. In the case of adults, he introduces in each nostril, morning and evening, a piece as large as a pea, of the following pomade: Vaseline, 20; lanoline, 10; anitol, 1; menthol, 0.30; stovaine, 0.20, and the patient is told to blow his nose lightly and one nostril at a time. Gargling and washing out the mouth with mild antiseptics is to be done often each day.

The following mixture, luke warm, is recommended in 5 to 10-drop doses, to be put in the affected ear: Glycerine, 40 gr.; resorcin, acide phenique, aa gr. i, especially in the cases arising from grippe, but also in any case whether it is an otitis media or an otitis externa, or a furuncle of the external canal. The author, of course, recommends a direct examination to ascertain the condition before using the above mixture, but, he says, in cases where an examination is impossible, at least a satisfactory one, the above prescription can be used anyhow with advantage and without danger. Whether paracentesis should be per-

formed or not, he says can only be decided by the indications in each case and is often an exceedingly difficult question to answer. Cold, he regards as prejudicial, and the tympanum must be kept from contact with the air by a cotton tampon, or, better, by a large square of cotton applied over the whole ear. If the pain becomes diffuse, and extends to the mastoid cells, heated pieces of flannel applied over the painful area are more grateful and beneficial than ice. He advises against leeches, as although grateful, they produce such a change in the skin that further external examinations are rendered difficult. Antipyrin or chloral may afford some relief, as well as hot mustard foot baths, yeast or purgation. The indications for paracentesis, outside of the condition of the tympanum, he states as follows: continuous and increasing pain, deafness, recent and much complained of, fever, if due to the otitis and not to a concomitant grippe, broncho pneumonia or tonsilitis, evidences of brain involvement, and a bad general condition.

As to the subsequent treatment, he strongly favors the school which manages the case on the general surgical principles of drainage and asepsis. The dressing should be done once a day by the doctor, who uses a wisp of sterile gauze, introduced into the external auditory canal, having sterilized his hands and instruments. The ear is afterwards covered with a lister dressing.

There should be no irrigations and no applications of antiseptics and very little bathing. "Less frequent dressings are preferable to dirty dressings, and the less one irritates wounds the more quickly they heal." He makes the above observation because of the frequent efforts of members of the family to remove the discharge from the ear. Often the physician cannot make the daily dressings because of the distance he would have to go, or especially because the relatives say they cannot afford the expense that seems to them connected with a condition that no longer gives trouble, and is healing rapidly. The answer to this should be that it is impossible to tell whether the case will be serious or not, so it is far better to treat each case with the same and the greatest care. The other school, with which he disagrees, employs lavage freely when the drainage is good; that is, "when the external canal is filled with pus." The lavage can be done once a day, *with gentleness*, with a solution of H_2O_2 (1 to 12), a tablespoonful to a litre of water. The external canal is dried with a cigarette of sterile absorbent cotton. Then 5 to 10 drops of the glycerine-phenique-resorcin mixture, 1 to 20, is poured in warm, and a wisp of sterile gauze introduced and left till it becomes impregnated. He warns against the use of balsam of Peru, oil of sweet almonds or laudanum, and if perforation has occurred, of caustics.

Regarding adenoids as the most frequent contributing cause of otitis media in children, he closes with an appeal for a careful search for them, and their early removal.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

Condyloma Accuminates on the Frenula of the Tongue.—F. SPRECHER (*Progress Med.*, 1905, No. 4).—Man of twenty-seven years, has vegetation on the prepuce. On the frenula of the tongue are several little excrescences, 3 mm. to 4 mm. long, which are increasing in number and volume. On microscopic examination the lesion presented the typical appearance of condyloma accuminatum. Scholtz remarks that this case points to the contagiousness of these vegetations from the genital organs.

Trichorrhexis Nodosa.—M. L. HEIDINGSFELD (*J'l Cutaneous Diseases*, June, 1905).—In conclusion the author states that trichorrhexis nodosa is both a normal and a pathological process. It is universally present in long uncut hair as a normal condition and is probably nature's method of physiologically arresting and stunting an otherwise unlimited and eventually cumbersome overgrowth of hair. When present to excess in a predisposed individual, it becomes a pathological process and abnormally stunts the growth of hair; the nodes are more prominently wounded and are often multiple, separated from each other by uniform intervals of normal hair shaft. Its etiology has been variously attributed to trophic, parasitic and mechanical influences. A mechanical causation is improbable on purely clinical grounds, and is incapable of artificial demonstration. The condition in brushes can likewise not be attributed to purely mechanical causes. A parasitic causation is not commensurate with the evidence thus far adduced from clinical studies and bacteriological investigations. The most rational explanation of its etiology from physical, bacteriological and clinical investigation, and its analogy to kindred and associated changes in the hair rests in trophic influences, emanating from the metabolism at large, and permeating the hair to its ultimate extent.

A Case of Acanthosis Nigricans Following Cancer of the Breast.—MENAHEM HODARA (*Monatsheft. fuer Prakt. Derm.*, June, 1905).—This occurred in a young woman of thirty, following a breast cancer which was removed by operation the year before. The skin of the mouth and nose is very dark brown to black in color, is thickened and is bedecked by small crusts and wart-like excrescences. A short time afterward the patient noticed on the left breast a small black wart. After the operation in the following January, at which the whole breast was removed, the process in the skin extended. This case is interesting from the close coincidence of the two processes.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

A Convenient Instrument for Rapid Retinoscopy.—H. W. THOMSON (*Ophthalm. Review*, July, 1905).—An instrument, which has been found to be of considerable use in expediting hospital refraction work, consists of a light circular frame attached by its center to a long stem and having fitted into it twenty of the lenses most commonly used in retinoscopy. In use the instrument is chiefly supported by pressure of the right arm against the body. The left hand is only slightly thrust forward and is concerned with directing and rotating the stem rather than bearing any weight. The especial advantage which the instrument possesses is that no special adjustment or position of the patient is required. Nothing is required of him but to be still and to look in a certain direction. Thus a minimum of time is lost between examinations. The total weight is nine ounces.

The Accurate Determination of Errors of Refraction, without Cycloplegia, by Means of Astigmatic Charts.—C. N. SPRATT (*St. Paul Med. Journ.*, August, 1905).—The writer's conclusions are as follows:

1. With intelligent adults subjective methods of refracting are preferable to objective methods.
2. The comparison of two lines at right angles, these corresponding to the axis of maximum and minimum refraction of the dioptric system of the eye, is a more accurate method of determining errors of refraction than by the use of test letters.
3. Astigmatic charts, as devised by Verhoeff, are preferable to the single line charts, as the contrast produced by the cross lines enables one to estimate more accurately any difference in distinctiveness in the test lines corresponding to meridians of maximum and minimum refraction.
4. In practically all cases the astigmatism and myopia can be as accurately determined without as with cycloplegia.
5. A large proportion of cases of hypermetropia can be satisfactorily refracted without the use of cycloplegics.

Eyestrain, Its Importance and Its Limitations.—G. L. WALTON (a paper read before the Boston Society of Psychiatry and Neurology, May 18, 1905).—This paper is a praiseworthy endeavor on the part of an eminent neurologist to sift the grain from the chaff of the radical and diametrically opposed views of certain ophthalmologists and neurologists with reference to eyestrain and its effect on the nervous system. We believe Dr. Walton's sane and dispassionate attitude far more likely to result in the establishment of the truth with regard to this much mooted question than all the intemperate and verbose twaddle that has emanated from violent partisans in both the neurologic and ophthalmologic camps.

The paper should be read in its entirety, especially by those who hold extreme views *pro* or *con*.

The conclusions are as follows:

1. Among individuals totally blind since infancy, 66 per cent. were free from tendency to headache, as contrasted with 31 per cent. of those having sight, and 29 per cent. of those with partial or acquired blindness.

2. If these figures should prove constant, the inference would seem justifiable that half the headaches in health are due to eyestrain.

3. The headache, when present among those totally blind since infancy, partook sufficiently often of the migranoid character to preclude the supposition that all migraine is due to eyestrain.

4. The results of this study would indicate that while migraine and migranoid headaches have a constitutional basis, and while other factors than eyestrain may act as exciting causes, still eyestrain is one of the most, if not the most important, of these exciting causes, and steps for its relief are imperative.

5. In no case has correction of refraction been given a thorough trial until (a) the glasses are properly centered, (b) their continued readjustment is practiced, (c) the patient looks as much as possible through their centers instead of from side to side, (d) efforts are avoided at straining the eyes to see distant objects with the glasses (e) spectacles instead of eyeglasses are used, and (f) the use of spectacles is constant, not intermittent.

6. The constitutional headache of the deviate is probably allied to the headache of "brain fag," but is out of all proportion to the sources of the fag. Little can here be expected of spectacles.

7. In the proportion in which obsessive tendencies and other signs of constitutional peculiarity accompany errors of refraction, efforts at the correction of refraction will prove unavailing for the relief of nervous symptoms.

Method of Choice in Operating on Certain Types of Chalazia.—ANTONELLI (*La Clin. Ophthalm.*, July 10, 1905).—The method advocated by Antonelli was originally proposed by Agnew in 1888. It is applicable especially to chalazia situated near the free border of the upper lid and to all chalazia located in the lower lid, which, by reason of the narrowness of the tarsus, are always near the free border.

The lashes are grasped between the thumb and forefinger of the left hand and the lid drawn away from the globe and steadied. A double-edged knife is introduced just back of the ciliary margin and advanced between the cutaneous and tarsal planes until the cyst is reached. The knife is then made to execute a slight lateral movement, and is also turned slightly on its axis, in order to disintegrate the cyst contents. On withdrawal of the knife the contents may be expressed by pressure forward of the thumbs. If this maneuver is insufficient to evacuate completely the contents, the cyst wall may be curetted. The wound is usually found closed on removing the bandage the day after the operation.

BOOK REVIEWS.

HANDBOOK OF ANATOMY. By JAMES K. YOUNG, M. D. Second edition revised and enlarged. F. A. Davis Company, Philadelphia.

This edition is along the same lines as the previous edition by the same author. It furnishes a concise though complete synopsis of human anatomy for the use of students of medicine and others. It contains 171 illustrated plates, some in colors. The diagrams of the arterial system and of the nervous system are particularly handy for ready reference.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By LEWIS A. STIMPSON, M. D., LL. D. Fourth edition revised and enlarged. Lea Brothers & Co., New York and Philadelphia.

Since the previous edition of this book appeared many interesting details, some of much practical importance, have been added to our knowledge of forms of fracture in or near joints, both by the x-ray and by greater frequency of resort to open operation. Also much new and valuable material has appeared concerning operative reduction of old dislocations. This fourth edition covers very well the improvements and new methods that have come into use since its predecessor appeared five years ago. The chapter on fractures and dislocations of the carpal bones is of particular interest. The skiagrams which illustrate the book are unusually good. The book contains 331 illustrations and 46 plates. All the operative procedures are well considered.

MANUAL AND ATLAS ON ORTHOPEDIC SURGERY, INCLUDING THE HISTORY, ETIOLOGY, PATHOLOGY, DIAGNOSIS, PROGNOSIS, PROPHYLAXIS AND TREATMENT OF DEFORMITIES. By JAMES K. YOUNG, M. D. P. Blakiston's Son & Co., Philadelphia.

The advance sheets of this work have appeared. It promises to be a valuable work on orthopedic surgery and is to contain many subjects not to be found in text-books, as historical illustrations, etc. The object of the work is to furnish in clear and concise terms a complete exposition of the subject of orthopedics. Particular attention has been paid to illustrations, many of which are from the author's original photographs. The aim of the work is to encourage not only the study of deformity, but to stimulate physicians to undertake the care of these cases, many of which have hitherto been regarded as incurable. The work is to be divided into two parts. The first part is to contain the etiology and pathology of deformities, together with details as to the manufacture of orthopedic appliances.

ATLAS AND TEXT-BOOK OF TOPOGRAPHICAL AND APPLIED ANATOMY. By OSKAR SCHULTZE, Wurtzburg. Edited with additions by GEORGE D. STEWART, M. D., New York. W. B. Saunders & Co., Philadelphia and London.

This book is supposed to be a topographic anatomy containing the essentials of regional anatomy and omitting the exceptional and unimportant details. These are presented in a graceful, forceful and brief manner, avoiding the tedium of those who attempt to include everything. The nomenclature has been changed to that which is in vogue in England and America. The book contains 25 colored illustrations and 89 text-cuts, 60 of which are in colors.